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ST. LOUIS

COURIER OF MEDICINE.

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No. 1.

EDITORIAL COMMENT.

Oxidase.

We are preëminently in the age of ferments. Human milk contains several, but the actual purpose of them is not clear. There is enterokinase, the intestinal ferment that activates the pancreatic juice. A ferment exists in muscle and liver which, when combined with some substance from the pancreas, oxidizes sugar. The latest contribution to the ferments are agents that oxidize the purin bodies. Thus, a ferment which oxidizes xanthin into uric acid has been discovered, which Burian calls xantho-oxidase. Certain glands contain a ferment with the power of hydrolysing guanin into xanthin.

According to Fitcher, another oxidase has been discovered in the laboratory of Johns Hopkins. This has the power to decompose uric acid into the end products ready for excretion.

This remarkable discovery promises to throw some light on the vexed question of gout and the uric acid diathesis. If any agent, such as alcohol, diminishes the activity or formation of this oxidase and food containing the purin bodies in large quantities are ingested, it is obvious that the system must be flooded with purin bodies insufficiently oxidized, which may then induce various morbid symptoms.

Just as diabetes appears to be a disease characterized by the deficiency of a ferment, the uric acid diathesis may also be due to a lack of uric acid oxidase. Hence, a new class of diseases may soon be formed, namely, morbid processes caused by a deficiency of fer-

ments. The supply of this deficiency will be the therapeutic task of the future.

Hepatic Insufficiency.

The old term "biliousness" undoubtedly had numerous clinical disorders giving the diagnostic syndrome as unanswerable witnesses to the propriety of the name, and Fothergill even wrote a splendid treatise on the subject based entirely on clinical observations. When our hospital physicians wrote textbooks, when physiologists denied the applicability of the term and calomel was shown to have no effect on the flow of bile, the name "biliousness" was silently dropped. It is coming back again under a new guise, *i.e.*, hepatic insufficiency, and some French writers have written of several severe forms. As Crofton (*Medical Record*, April 28, 1906) so clearly points out; hepatic insufficiency signifies an impairment of the several functions of the liver, namely—1, the formation of urea; 2, conversion of sugar into glycogen and the storage of the latter; 3, formation of bile; 4, elaboration of the fats and albumin; 5, general disintoxication of circulating poisons.

When a symptomatology which is corroborated by a chemical examination of perversion of function (stools, urine) shall be elaborated, then the old disease, biliousness, may again receive some recognition and the old masters applause.

Physician and Surgeon.

Rosenbach very much deprecates the tendency of the modern physician to rely upon the bacteriologist in making a diagnosis and neglect other clinical methods. We must still depend on clinical methods, inquiry into the course of the disease, physical examination and, sometimes, an observation of the subsequent course to determine the exact diagnosis. The general practitioners often depends on the specialist for diagnosis, too often for treatment. The strict division of medicine and surgery, while offering some advantages has its drawbacks. Every surgeon should be a good physician, and on the contrary, every physician should be a good surgeon. In other words, every physician should be trained in that manual skill which makes

the surgeon. Every student of medicine must have a thorough training in that aseptic technic which more than any other discovery has advanced surgery. Even the practicing physician must do some operating in order to keep his manual dexterity in trim—it promotes confidence and insures reliable and careful diagnostic procedures.

Organization and the Regulation of Fees.

Here and there we find some writer who contends that physicians must organize so that the inadequate fees paid by life insurance companies may be adjusted to the proper height. Again, in certain communities, where through the anxiety of some weak practitioners the fees are held very low, physicians have openly declared that a thorough organization would eradicate the evil.

The American Medical Association and the State Societies have already to bear the stigma of medical trust or medical union on account of the splendid fight against quacks and nostrums, but is it not time to remind the medical profession that no organization for the purpose of raising fees is ethical? What difference could be found between medical and trade unions, if as an organization we demand more money and less work?

It does not suffice to call attention to the thousands of physicians who are underpaid, or even starving. No excuse can be offered for the practice of forcing a certain price on our patients by organization. A physician has only one way of raising his price and that is demonstrating his absolute worth. The methods of the trade unions must not be tolerated among the learned professions.

Iodin and Arteriosclerosis.

One of the paradoxes of scientific medicine is the assertion that clinical experience is too fallacious in its deductions to serve as a reliable guide for research in therapeutics. Animal experimentation with proper control is, therefore, preferable. On the other hand, no one dabbling in experimental pharmacology has the hardihood to contend that his positive effects on animals have any practical value until tested clinically. The province of experimentation, then, has been relegated

to the task of originating therapeutic suggestions, it is still the "lower house" of medical investigations.

It is refreshing at times to find animal experiments corroborate clinical experience. Thus, iodine has a big reputation as a valuable therapeutic agent in arteriosclerosis, yet its efficacy has been doubted by good observers. Koranyi (*Deutsche Med. Woch.*, February 1, 1906), in a recent experimental investigation, finds that the administration of iodine compound simultaneously with adrenalin prevents the formation of arteriosclerosis in the blood vessels of rabbits. One of the most important contributions to pathology is the demonstration that the repeated injection of adrenalin produces arteriosclerosis, a process which is really supposed to be reparative. It is interesting to find that iodine counteracts the influence of the great vaso-constrictor.

Heredity and Disease.

The relation of heredity and disease is receiving very little attention in practical medicine today. While biologists are still discussing the possibility of inheriting "acquired characteristics," physicians have collected many facts, and it is known that the ovum may become affected by bacterial infection and thus the infant have the same disease as the parent. Ribbert has recently declared that clinical evidence has really demonstrated that acquired diathesis or tendencies may be inherited, but there is nothing rigid about the law, exceptions having been very numerous. Of course, physical mutilations have no tendency to be inherited; no tailless dogs can be produced by continually chopping off the tails of dogs.

The changes produced in the germ cells by external conditions are apparently trifling, and although occasionally an impression upon them is shown, as in the drunkard, this impression is inconstant and variable in its ultimate outcome. The task of determining unknown factors seems almost impossible. Some desirable variations show little tendency to be inherited, while many undesirable often tenaciously reappear. It is impossible, as yet, to pick out the variations which become family traits.

LEADING ARTICLES.

RECENT RESEARCHES IN REGARD TO INFANT FEEDING.

A Review of Some German Literature.

It has not been many years since our interest was almost exclusively concerned with the subject of milk pasteurization and sterilization. How we had hoped that by these procedures the mortality of the infant would be greatly mitigated! In Germany especially, impressed by the teachings of Soxhlet, the practice of boiling milk became almost universal; but unfortunately with no marked diminution of mortality. Very early arose opponents of the Soxhlet method, but as nothing better was offered the practice of boiling milk was viewed as the lesser evil and generally employed.

Continued bacteriologic and clinical research, however, only emphasized that cows' milk stood directly connected with the majority of the children's diseases. On the one hand the milk served as a conveyance for pathogenic bacteria; on the other sterilization diminished the nutritive qualities of milk.

Brüning of Leipsig studied the effect of raw and boiled milk and artificial food in three young goats. The smallest of these was allowed to nurse its mother, the second kid received its mother's milk which, however, was boiled first, the third received boiled cows' milk. It was clearly shown that the one which nursed its mother grew more rapid and in its developement became much the healthiest. Hoblfeld studied the effect of raw and boiled milk in atrophic children and found the former had a much more favorable action.

Then came the careful experiments on immunity, particularly those of Moro and Hamburger, which revealed that raw milk supplies antibodies to young babies, and the clinical greater resistance in babies fed on raw milk received a partial explanation. Finally, the increased reports of tetany, rickets, and scurvy caused by feeding raw milk opened the eyes to the disadvantages of pasteurization.

It was natural then that Schlossman a year ago should lay down the law that the principal object of milk production is asepsis and not anti-sepsis, and Seiffert magnificently echoes the same thought when he urges

that all technic in the production of milk must have as its fundamental object the reduction to the minimum of the primary bacterial content.

From the prevailing literature it does not seem assured that a very effective technic has been worked out abroad, although Schlossman (*Yarhb. f. Kinderheilkinde*, Bd. 43, page 44) writes of his model dairy in Dresden, a dairy which furnishes milk for his infants' asylum, and which follows a technic not unlike that recommended by the dairy-men of the U. S. Dept. of Agriculture.

Seiffert argues in no uncertain words on the advisability of using aseptic unheated milk for infants. Heating he terms denaturalization, and believes its nutritive qualities are thereby impaired; in order, however, to destroy the germs he has used, as he states with good results, the ultra violet rays during the process of cooling to diminish the number of bacteria. Schlossman recommends the use of ice only, and bitterly attacks all efforts at the preservation of milk by means of chemicals.

The extensive discussion on the production of Pure Cows' Milk by Ohlen (*Zeitschr. f. Hyg, u Inf.*, Bd. 49) while rather extensive in its historical dates, still recommends boiling of milk obtained in a careful and cleanly manner.

It is easy to see, however, that there is a strong movement on foot in Europe to produce purer milk, although Schlossman is compelled to affirm that clean milk is a rarity in Germany. As in this country, dairyman for commercial reasons are very much opposed to the exacting requirements, and the increased cost of production acts as the principal hindering factor.

If then, pure milk is a rarity in Germany, what becomes of all the clinical observation on the digestibility and toxic properties of cows' milk, and since boiled milk is almost exclusively used in infant feeding, the whole subject of nutrition on substitute feeding must all be gone over again. It is one thing to experiment with boiled or infected milk, quite another to use only relatively aseptic milk; hence, the sad part must be chronicled that the work of 20 years must be repeated in many particulars. Yet, never before has so much investigation in regard to the nutritions of infants engaged the minds of scientists. As already hinted many researches are invalid in their conclusions since the factor of bacterial contamination has not entered the field of study.

This primary objection obtains for many reports of gastrointestinal disturbances which were said to be caused by the irritation of casein. Thus Schlossman reports a series of cases of such disturbances but no serious attempt was made to exclude the presence of toxins in the milk.

To Hamburger we owe most of the work on the relation of digestion and immunity. In a dissertation before the Pediatric Section of the Gesellschaft Deutscher Naturforscher, he summarizes his study.

After referring to the well-known phenomenon that the hypodermatic injection of a heterologous proteid induces the formation of precipitins or lysins, and these antibodies are relatively specific, he concludes that the albumin of cells having similar functions but different species have a different biologic structure. Every cell of an organism has its own peculiarity of structure, and this fact is the expression of a general law—the law of the unity of the species. Every organism, therefore, throughout its tissues is built on this law of unity, and it endeavors to maintain this unity of structure, as the alien albumin acts as a poison.

When, therefore, the organism is in need of additional albumin to supply a loss or assist a growth, it must transform the heterologous albumin into homologous albumin; and this is the function of digestion and assimilation. The former process breaks up the proteid molecule and the latter builds it up into tissue-similar structure. The heterologous albumin in the alimentary canal acts as a stimulus to the secretion of digestive fluids, and there is reason to believe from Pawlows experiments that the alien proteid stimulates the glands to secrete enzymes in quality and quantity sufficient for its disintegration and assimilation. While to the adult the toxic property of the alien proteid serves merely as a stimulus, to the newly born infant it becomes an intestinal irritant and induces deleterious effects. It is this detrimental stimulus that forms the principle difficulty to substitute infant feeding.

While Hamburger's reasoning is very attractive, and many known facts tend to corroborate his hypothesis, other serious objections may be entertained against it.

In the first place to the majority of the newly born infants the heterologous proteid in the form of casein and lactalbumin does not act as a poison when given in reasonable quantities. While we recog-

nize a period of adaptation varying from a few days to a few weeks and may conform to a period that corresponds to the immunity producing time, its symptoms are not usually toxic as in the series reported by Schlossman.

Hamburger does not consider the well-known clinical fact that an injury to the intestinal mucosa by bacteria or bacterial products is the most common precedent of casein intolerance. Why should the cows' milk agree for a few days or weeks, then an infection upset the digestion so that for many weeks milk is not tolerated? To assume with Schlossman that in certain cases the injury of the epithelium permits the entrance of the heterologous proteid into the circulation, will not do; since these symptoms are quite different from those produced by the hypodermatic injection of casein in the infant.

Experimental objections are also numerous. Hamburger himself by injecting small animals with milk tried to enhance their digestive and absorptive power but with negative results; yet, Schlossman recently claims by the injection of lactoserum to have improved this function.

The thoroughly demonstrated function of digestion in destroying toxins (*e g.* tetanus or diphtheria toxins) argues that it is the function of digestion to destroy toxicity.

There is a singular phenomenon first noted by Moro that a leucopenia occurs after nursing the breast, but a leucocytosis is found in the peripheral circulation when an infant is placed on cows' milk. After a time this digestion leucytosis disappears. Moro suggests that the leucopenia of the breast-fed infant suggests an attractive force in the organs of digestion, while a negative chemotaxis occurs from cows' milk. In this experiment also, the fact that certain bacterial toxins are often found in cows' milk does not seem to have been considered. But granting this to be true of pure uninfected milk, it can not support the theory that heterologous albumins have a similarity of action on all tissues.

Wassermann found that when heterologous sera are injected and this is followed by the injection of typhoid bacilli, the latter are promptly killed. When a homologous serum was used the typhoid bacilli killed the animal. It was argued that the heterologous serum causes an accumulation of antibodies at the site of the injection. Another experiment whose interpretation may be similar was made by

Moro. He found that blood of infants fed on breast-milk has strong bactericidal properties, but on administering artificial food this power was markedly diminished. His explanation that the milk of the mother imparts immune bodies to the infantile organism while cows' milk does not, may seem perfectly rational, knowing that the breast-fed infant is more resisting to all infections. He overlooked the fact, however, that the ingestion of cows' milk may cause the utilization of the blood ferments in greater quantities, in other words, there is a greater determination of tissue ferments to the intestinal canal and thus the general circulation is robbed of antibodies constantly present in the breast-fed infants.

If the processes of digestion and assimilation are engaged in the formation of homologous from heterologous albumins, the question is pertinent as to the function of digestion in the case of the breast-fed infant where homologous proteids are ingested. Hamburger insists that the process of digestion is necessary only in regard to casein as this proteid as such does not exist in the organism. The lactalbumin can enter the circulation unchanged and by this means may carry antitoxins and alexins. And there are many experiments which go to prove that immunity to disease may be transmitted through the milk, although it seems rather odd to believe that the secretion of gastric and digestive enzymes should be active at birth when their presence is not necessary.

The study of the immunization of the infant through the food according to Salge's work, shows that the transmission of antitoxin and immune bodies is not possible through heterologous serum. Human milk is living to the infant only, cows' milk only to the calf.

PROSTATIC HYPERTROPHY.

TREATMENT.

Previous to the accomplishments of the renowned McGill of Leeds the treatment of prostatic obstruction was principally palliative; the medical attendant advocated catheterism in practically all of these cases, since it seemed to yield results far superior to those obtainable by other methods. Today, however, the one important and pressing question presenting itself for prompt decision in every case of prostatic obstruction, is: Is the medical attendant justified in introducing

this sufferer to catheterism, with all its attendant dangerous and distressing, and often fatal, complications, when prompt and proper surgical intervention—operation before the appearance of septic cystitis, renal infection, renal insufficiency, or other conditions which destroy the patient's health—yields the safest and the most satisfactory outcome? Personally, I can not help but feel that when the pathologic changes in the prostate have reached such a stage that it is necessary to subject the sufferer to the dangerous and merely palliative treatment (regular catheterization), certainly the condition fully warrants prompt surgical intervention (radical removal of the diseased tissue); hence, I am sure that Dr. H. G. Mudd is taking a decidedly advanced step in the right direction when he says:

"In my opinion the safe plan in the great majority of the cases would be to remove the offending organ with the first alarm sounded by the symptoms of obstruction."

The consensus of English opinion is tersely expressed by Sir Frederick Treves when he says:

"As long as a patient with enlarged prostate can live in comfort with the occasional use of the soft catheter, no operation is to be advised. But when catheterism becomes increasingly frequent and difficult, the question of radical operation has to be considered. Recent experience has shown that the risk of prostatectomy is much less than it was formerly considered to be; and further, that the complete removal of large adenomata which usually form the obstruction is attended by results with which those following partial excision can not be compared."

Syms feels that operation is indicated:

1. When the patient suffers from obstruction which necessitates very frequent urination to a degree which entails exhaustion.
2. When he suffers from repeated attacks of acute cystitis, or from a marked degree of chronic cystitis.
3. When bladder stone is caused by prostatic obstruction.
4. When frequently repeated hemorrhages occur.
5. When the pain tends to undermine the patient's health.

A careful study of the pathology and clinical manifestations of prostatic hypertrophy, and of the literature concerning the treatment, clearly demonstrates the fact that the results of palliative treatment are

absolutely unsatisfactory—in many instances the dangers accompanying their application far exceeds the dangers attendant upon early prostatectomy. Concerning the chief dangers of radical operation Mudd says:

“The chief danger of prostatectomy now lies in the fact that the condition of the patient coming to operation is such that any surgical interference is a matter of great gravity.”

Renal insufficiency is looked upon by many surgeons as a distinct contraindication to radical operation. Concerning some of the contraindications Fuller says: “Putrid urine and the presence of an ascending pyelitis together with some involvement of the kidney, should not stand in the way of operation, but their existence should strengthen the plea for speedy relief of the prostatic obstruction, the direct cause for their presence and combination; radical operation is often followed by perfect recovery.”

Such antique and unscientific treatment as, ligation of the internal iliac arteries, castration, vasectomy, angioneurectomy, etc., have, thank heaven, sunken into unmoaned and unhonored graves. Robinson sought to perform prostatotomy by way of the rectum, while Harrison performed external perineal urethrotomy, and then inserted the knife into the prostatic urethra, dividing the prostatic bar on the floor of the gland, then he forcibly stretched the prostatic urethra with his fingers or a sound. Mercier devised the prostatome for cutting the middle lobe of the gland through the urethra. Gouley presented an instrument for cutting or punching out segments of the enlarged gland; the instrument was inserted through a perineal incision. Maisonneuve devised an instrument whereby he was enabled to incise the prostate through the floor of the urethra. In 1877 Bottini of Italy modified Mercier's instrument in so far as to produce a galvano-caustic incision which burned instead of cut. Freudenberg greatly improved Bottini's instrument. More recently Chetwood has presented a similar instrument which he introduces through a perineal incision; the advantages of the Chetwood instrument are quite obvious; the bladder can be carefully explored with the finger before the instrument is introduced; the operator clearly knows what he is doing; and it is claimed, that the operation is applicable in almost all cases. In former years suprapubic prostatotomy was frequently resorted to; it is a fact that all

of these methods are palliative, and have many objectionable features—in many instances they have been resorted to simply because the patient's condition prevented radical operation.

And now we come to the recently much-discussed and, I think, ideal treatment—excision of the diseased prostate. Previous to 1886, prostatectomy for the relief of urinary obstruction was an operation that was unknown. Mr. McGill of Leeds not only originated the operation, but improved and perfected it. In fact, the medical world looks upon Mr. McGill as the father of advanced prostatic surgery. McGill began by removing small pieces of the prostate in an unscientific way through the bladder after a suprapubic cystotomy. The perfected operation was as follows: After having performed suprapubic cystotomy and sutured the bladder to the abdominal parietes, he then inserted curved scissors through the incision and snipped through the membrane over the projecting portion of the gland, completing the operation by enucleating the gland with the fingers and forceps. The bladder was drained suprapubically, the bladder having previously been irrigated with water so hot as to make it uncomfortable for the hand. Bellfield modified McGill's technic by advocating the additional operation of perineal urethrotomy to facilitate drainage, while Fuller advised counter-pressure by means of the fist against the perineum. Of late Freyer has reported excellent results with suprapubic prostatectomy—according to an editorial in the November, 1905 issue of the *Buffalo Medical Journal*, the technic employed by Freyer is that advocated by Fuller; infact, Freyer is severely criticized for failing to credit Fuller with the technic.

To Nicoll belongs the credit of having been the first to devise a well-defined perineal operation for removal of the diseased prostate. Nicoll's technic was the following: After performing suprapubic cystotomy and attaching the bladder to skin, an incision was then made in the perineum, similar to that in perineal urethrotomy, and a second one at right angles to it in front of the anus, forming a T. Nicoll then dissected up in the perineum anterior to the rectum as far as the prostate, and having cut through the capsule he inserted his right forefinger between it and the gland; the fingers of the left hand were employed to make counter pressure from above, while enucleation was being performed by the right forefinger. Nicoll drained through the urethra by means of a retained cathether without performing urethrotomy. The

lower wound was packed with gauze; the sutures holding the bladder and abdominal wall in apposition were then removed; and the bladder allowed to fall back into the abdomen.

Later, Alexander advocated going into the prostate through a perineal incision made into the membranous urethra up to the apex of the gland; the capsule was then incised and the finger inserted in the latter for enucleation. Counter-pressure through the suprapubic cystotomy incision was employed. Both suprapubic and perineal drainage were employed.

Syms attempted to obviate the necessity of suprapubic cystotomy by inventing a rubber retractor. This hard rubber tube with a soft rubber balloon at the end is too well known to require further comment. Recently Syms has reinforced the rubber balloon with a canvas lining. In 34 cases Syms has found it perfectly satisfactory.

More recently Young has presented an excellent modification of the metal retractor of the French. Young contends that no important structures are injured by his technic, and the entire exposure of the prostate is by incising the skin and dividing the central tendon and the insignificant recto-urethralis muscle beneath it in the median line—(both of which are necessarily severed in all perineal exposures of the prostate) the remainder of the operation is done by blunt dissection with the forefingers. The levator ani muscles and other important structures are merely separated and held apart by retractors so that no more injury is done than in other perineal operations. Young claims that the entire operation is under the eye of the operator; that the sexual powers will be preserved; that proper attention can be given the urethra and to the ejaculatory ducts—in a word he feels confident that it is the most simple, and most satisfactory technic.

It must be admitted that many surgeons highly commend the Young technic. Mudd feels that the method advocated by Young is the operation of choice; the whole operation can be done quickly and deliberately under the guidance of sight and touch. His objection to the Bryson technic lies in the fact that there must necessarily be wide destruction of the prostatic urethra, and the uncertainty of completeness; the bladder and the rectum are frequently torn into.

Today we find the English clinging to McGill's technic, the Germans lean toward the Bottini—Freudenberg instrument, while in America the perineal technic is constantly gaining ground. Personally,

I can not help but feel that no one operation is suitable for all cases. So much depends upon the site and character of the obstruction, and the general condition of the patient. Just as soon as the medical attendant fully appreciates the fact that the distressing results of palliative treatment can be prevented by a more safe procedure—one that yields satisfactory results—just so soon will we see the best results of prostatectomy.

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Specific Therapy of Tuberculosis.

In the problems of diagnosis and specific therapy of tuberculous infection the use of preparations made from tubercle bacilli has, since Koch's discovery some sixteen years ago played the first part. Owing to misunderstandings and consequent prejudice the importance of this discovery has been ridiculed, and for all this time the tendency has been in the unusually copious literature on the subject to discredit it, and on superficial considerations to demonstrate its uselessness and to insist on its harmless sequelæ. Certainly this way of solving the riddle by a formal denial has done a great deal to impede the progress of the attempts to understand fully and, therefore, employ rationally the substances, the use of which in a century from today will be the means to prevent or eliminate and even to redress the ravages of the tubercle bacillus. While Koch, almost intuitively, had recognized the conditions, under which such substances could be employed with advantage, basing his opinion on observed and partly on assumed facts, the intricate complicity of their action never could be fully explained. It was known that tuberculin and other preparations would, besides the constitutional symptoms, cause a local reaction, influencing the infected areas or foci of tissue. Histologically, the changes brought about in the tissue were worked out completely, it was found, that in broad terms, the effect was an imbibition of the diseased tissue with the fluids of the body, infiltration with morphotomic elements of the blood and lymph and, in consequence, a softening and resorption of the focus.

This existence of a specific condition was known for a long time; its explanation was different and many theories were advanced, that here can not be detailed. But the number of these theories show that a general idea existed of the necessity of having a satisfactory explan-

ation in order to be able to control rationally the diagnostic and therapeutic administration of the substances prepared from tubercle bacilli.

Wassermann and Bruck have, in a very ingenious way, searched for this explanation and have come to conclusions so far-reaching in their importance that their somewhat detailed discussion is justified. Their methods are based on the teachings of Ehrlich, and as by this time the latter have become the subject of a hot discussion as to their correctness, the work of these authors shows, that, although perhaps only heuristic, they up to this moment form the only method by which advance of knowledge-widening of the horizon and practical results can be achieved. It had been found before that the immunization with material derived from tubercle bacilli would produce an immunity against this material. The results, however, were not conclusive, because no clinching evidence could be given other than clinical observations. On the other hand, the preparations have been used, in strict adherence to Koch's suggestions as to the range of indication, during the last sixteen years, with remarkable results. The men that conscientiously did this agree uniformly in the specific action of the material as influencing the subsidence of the progress of tuberculous infection and its suppression. As said above, the indications were more or less empiric. Their inner nature was not known.

The authors, whose paper is discussed here, succeeded in finding a method which confirmed the long held assumption of real immunity-reactions going on in the tuberculous tissue and explaining to a degree the peculiar chronic course of the infection. The method they employed and adapted for the purpose in view forms an outcropping of the general thoughts emanating from Ehrlich, a logical consequence from adopting the principles founded by him and leading to a delicacy of distinction and specific differentiation formerly believed impossible. The method is the same that allows us to differentiate up to minimal concentrations the specificity of animal proteid substances and that, for instance, is immensely more sensitive for the identification of human proteids, than the so far only used method of specific precipitation. The fact that amboceptors combined with specific receptors will bind all of the complements in a certain mixture, allows to demonstrate even the minutest quantity of an amboceptor, or of its receptor, or of its antigene. The binding or liberty of the complement is

easily demonstrated by the degree of hemolysis occurring in a combination of immune serum and normal corpuscles added to the fluid to be examined. The amount of complement added to it is constant and the degree of hemolysis ensuing demonstrates the quantity of antigenes.

These remarks may appear mysterious, but their lucid interpretation would lead to a length of discussion exceeding the space allowed for this discourse. It may be said that by this method Wassermann and Bruck found that even the minutest traces of, let us say, tuberculin and antituberculin could be demonstrated. This alone is an immense advance in our means to study tuberculous infection. Immunity-reactions exist here, like in other infections. They differ from them in certain ways, owing to the peculiar histologic character that a tuberculous lesion exhibits, and that by Ehrlich was paralleled to the structure of an onion, consisting of different layers, closely encircling each other, the innermost of which are subjected to the direct action of the tuberculous toxin, but adjoining ones only partially, while the outer ones are free from it and are in character normal. In the center tuberculin is produced by the disintegration of the bacilli, its presence causes the formation of antituberculin. Both of these can be demonstrated experimentally in the lesions. In localized lesions the antituberculin does not leave the tubercle, its sheath prevents it, in the blood of isolated foci this substance never is to be found. It is found when the lesions become confluent and extend, then the blood contains antituberculin. Any tuberculin introduced at this stage into the blood will not cause a specific reaction because it is neutralized by the antituberculin circulating with the blood.

The specific effect of the reaction lies in the effect of the meeting of antituberculin in the focus and the tuberculin introduced by injection. By their combination fermentative processes in the focus are brought about, leading, as said above, to colliquation and resorption of the diseased tissue, a cytolytic process. The specific tuberculin-reaction is represented by this process, not by the rise of temperature accompanying it. The reaction obtains also if the amount of tuberculin is gauged in a way that no rise of temperature occurs. It is probable that under the usual conditions the tuberculin-antituberculin combination in the focus itself is sufficient to destroy this focus, to eliminate the infection. Where the necessary stimulation for it is not present,

the disease progresses; here tuberculin, if the lesion is localized as yet, will increase the reactive qualities of the tissue, antituberculin will be produced eventually to an extent that complete neutralization will occur. The fact that even so minute amounts of tuberculin will cause this reaction (0.1 to 1 mg.) is due to the avidity of the one substance for the other, a phenomenon that is the rule in immunity processes. It is not only the contact by the circulating blood that brings the tuberculin into the focus, because it must affect other areas in the same way, and this is impossible, since with 1 mg. the dilution would be 1/500,000, exceeding all of the facts that we have on the toxic qualities of diluted solutions of toxins. Fermentative action for immune substances is excluded by their typical chemical combinations.

A great number of experiments made by the authors has shown that tuberculous patients, not carrying antituberculin in their blood, do carry it after the treatment with tubercle bacilli products.

The foregoing remarks can only indicate faintly the character of the work done by Wassermann and Bruck. The conclusions to be drawn from it may comprehensively be expressed thus:

The specific reaction of tuberculin and other products of the tubercle bacilli on tuberculous patients not before specifically treated is due to a specific affinity of the products to the antituberculin in the tuberculous foci. It leads to a softening and resorption of the diseased tissue. As tuberculin and antituberculin act after the amboceptor formula on each other, complements, as well known of enzymotic character, play a rôle, by being contracted in the foci. The general reaction to an injection of tuberculin is composed of two factors: The one not specific and the property of the body-proteid of any bacterium (endotoxin), the other the action of the specific toxin, that is secreted by the tubercle bacilli. To the latter normal persons do not react if small quantities are used. Large quantities cause in them a fever, but not of specific character, but of that, that would be produced by the same amount of proteid of other bacteria.

The fever of the specific reaction from small doses introduced into tuberculous persons is not the same as that produced in healthy ones by large doses. In a tuberculous person the injection of 1 mg. causes a rise of temperature by preparing the tissue of a tuberculous focus for resorption; the resorption of any such substance is accompanied

by fever. In people whose blood contains antituberculin these small doses are tolerated without reaction, because the injected tuberculin meets in the blood with its antigene and does not reach the diseased tissue. This fact is of immense importance as to the therapeutic use of the tuberculin preparations, as naturally an organism carrying anti-tuberculin in its blood will prevent, thereby, a specific reaction in the tuberculous lesions. The most favorable conditions are those where the tuberculin is present only in the lesion, and this again, naturally, covers the cases where the infection is in an early stage.

The authors thus fully demonstrate the suggestions of Koch, made fifteen years ago, as to the selection of cases for specific treatment. Altogether, no more convincing evidence has been brought forward for the importance of Koch's discovery, than their work.

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Cyclic Albuminuria.

A condition of considerable interest not often found by the general practitioner is the condition known as cyclic albuminuria, orthostatic albuminuria or the albuminuria of adolescence. That the condition is quite common is beyond dispute, but it is most often recognized by the examiners for insurance companies and those who make routine examinations of urine.

The peculiarity of this condition is that albumin is found in the urine at certain periods and then at other times the albumin is absent, and withal, the subject of the transitory albuminuria is apparently in good health. It is found in most cases shortly after rising from a night's rest in a recumbent position, but cases have been noticed where it occurs, or can be produced by asking the individual to lie down, and then, in a short time, arise, when the albuminuria can in this way be produced at any time of the day. Careful examination in these cases show none of the signs of nephritis. Microscopic examinations proves the absence of casts and other microscopical evidence of renal disease.

By some investigators the condition has been held to be a physiological one, but this view, by the greater weight of authorities is held to be untenable. All urine contains a small amount of albumin, —nucleoalbumin, derived from the cell elements of the kidneys. This

differs from serum albumin, which is derived from the blood. The quantity of nucleoalbumin is exceedingly small and usually escapes notice in the usual tests for albumin. Every albuminuria of hemato-genic origin must be considered pathological. The term "physiological albuminuria" means that albumin may be excreted by the healthy individual and that the albuminuria is only temporary and leads to no ill effects. The fact that it is benign is no reason why it should be considered physiological. Temporary, cyclic albuminuria is always due to some functional disturbance of the kidneys; some disturbance of the circulation in the glomeruli or tubules of the kidneys.

Previous to the year 1878, all albumin in the urine was considered indicative of renal disease. At this time, Moxon published a paper on "Intermittent Albuminuria, or the Albuminuria of Adolescence," including Remittent Albuminuria.

Previous to this, in 1875, Johnson drew attention to the fact that albumin was at times found transitorily in the urine of healthy subjects. Dukes, in 1881, drew attention to a case in which the albuminuria could be gotten rid of in an hour by putting the individual to bed.

Broadbent describes cases having albuminuria on rising in the morning and the albuminuria disappearing after the individual had been up awhile, passing off entirely in the course of the day. These cases are commonly found in youths and the term "albuminuria of adolescence" applies very aptly to these cases. This albuminuria is not due to food and does not appear if the person sleeps late into the day. It is in evidence on arising in the morning after a night spent in lying down. It is caused by a changed hydrostatic condition. The amount of albumin is small, as a rule, but may be considerable. There is usually an antecedent history of neurotic tendency in the individual himself or his family. In the subject himself there is loss of tone, a vascular instability. In most cases we find a violent cardiac impulse, and the second sound is reduplicated when the patient lies down. A distinctly high tension pulse is indicative of true renal disease. The subjects of these transient attacks of albuminuria are not well, but are faint and weak and of neurasthenic type.

In the year 1885, Pavy aroused the interest of the medical world by describing in detail six cases of orthostatic albuminuria. Pavy found in his cases that the subject showed albuminuria shortly after arising, none at all at the time of arising and most at about noon, then

declining toward night. He found the pulse tension lowered and a characteristic lack of tone to the cardiovascular system. Pavy also found that the condition does not run into renal disease and that all evidence of renal disease, casts and other microscopical evidence was lacking.

The alterations in the walls of the vessels play an important role in the production of this condition. A weak condition and a lack of tone predispose to venous stasis, and the kidneys having a double capillary system are readily affected by this condition of stasis. So we find the results of this circulatory change evidenced by albumin in the urine.

The causation of cyclic or orthostatic albuminuria is not definitely known. Many cases lack vascular tone and are nervous and neurasthenic, there is a vasomotor paresis, best evidenced by the beating of the abdominal aorta, which becomes very marked in some cases. Movable kidney has been cited as the cause by Southerland, who reports fifteen cases in forty, a percentage of 37.5. Sex has little to do with the etiology, and that sex will predominate as one examines for insurance companies, when males will predominate, or whether one treats a number of children, when the female sex will predominate.

In many cases the condition may be traced to previous infectious diseases. Herz and Salomon report a case in a male, aged 23 years, in whom the condition arose a few months after an attack of scarlet fever.

In other cases, baths, both hot and cold, have been thought to be a factor in the etiology of cyclic albuminuria. Galewitch and Picci mentioned several cases apparently due to warm baths.

Exercise and overexertion are not a cause of the condition and Ehl goes so far as to suggest exercise as a cure for the condition.

In some cases, heredity seems to have been proven, as in the case of Huebner who found cyclic albuminuria in two sisters, one 13 and the other 15 years of age. Achard also reports cases in two sisters, one 12 and the other 18 years of age. LeNoir cites cases in a family of five children, the older sisters showing no albuminuria and the three boys showing orthostatic albuminuria, and of these, two were twins. Mix cites familiar cases—a father and a daughter, 9 years of age, subject to orthostatic albuminuria, the remaining child being free from the condition.

The ingestion of food is without influence and all experimentation has proven that this is not a factor in the production of the albuminuria. The very fact that the maximum albuminuria is before dinner and that it decreases in the afternoon and evening proves the inadequacy of food as a causal factor.

The general opinion is that the erect position is the chief etiological factor. Careful experiments, by Lenoissier and Lemoine, show that standing lowers the secretion of water by the kidneys in all individuals, whether healthy or suffering from nephritis. The diminution of water was found to be greater in individuals in whom the kidneys are diseased and the difference is sufficiently marked and constant to indicate that excessive orthostatic oliguria is a very delicate sign of defective renal secretion.

More urea is eliminated when in the erect position and this is true of both healthy and diseased kidneys. With these two facts, it is not difficult to appreciate the influence the upright position may really have upon the elimination of albumin. That the upright position may not be the real cause is evident from the fact that there is usually a diminution of albumin toward the end of the day, when the patient has been in the upright position all day.

The knowledge of the renal changes is wrapped in obscurity, as not a single case of cyclic albuminuria has been examined, postmortem. There are theories, more or less plausible, and a prevailing idea that the albuminuria is physiological, but nothing definite is known of the changes that take place in producing the condition. According to Senator, physiologic albuminuria is an entity, although limited to small amounts of albumin, and that such albuminuria is brought about by cold baths, exercise, overeating and mental overwork. The majority of writers and authorities are opposed to this theory.

Marie and others suggest that the basis in the etiology is a paresis of the vasomotor system accompanied by more or less neurasthenia, hysteria and dyspepsia nervosa. Cold extremities and beating of the abdominal aorta are accompanying symptoms. To quote Ewald:

"The underlying factors must be a disturbance in the renal circulation, manifesting themselves through the influences of certain reflexes in the renal parenchyma."

Ewald thinks that the area of disturbance is in the glomeruli, although possibly the tubules are also within range of causation. Nei-

ther Ewald nor any other authority has been able to enlighten us as to the cause of the diurnal variations.

Lancereaux makes a distinction in the albuminuria as to the origin of the albuminuria, dividing it into three classes or types: Epithelial, vascular or nervous. In the epithelial type we find destruction of the cellular tissue of the kidneys, and this variety is the most serious form of albuminuria. The vascular type is an albuminuria caused by a change in the blood supply of the kidneys or a change in the quality of the blood itself. The nervous type of albuminuria is characterized by the absence of all evidence of renal disease, a total absence of casts and other evidence of destructive tissue change. He classes cyclic albuminuria in the class of albuminuria of nervous origin, and cites all the usual symptoms of cyclic albuminuria, noting especially the absence of true renal disease.

Wright and Ross have made some interesting experiments and researches in normal and diseased kidneys and have perfected a method, more or less accurate, of differentiating healthy from diseased kidneys. They base their experiments on the fact that the normal healthy kidney will excrete a certain, invariable percentage of sodium chlorid. By giving the subject of the experiment a solution of sodium chlorid and then later examining the urine, they can tell definitely, by tests, whether the kidneys are elaborating from the blood the required percentage of sodium chlorid. By an elaborate method of calculation, considering in this calculation the amount of salt in the solution, given by the mouth and the amount afterwards obtained in the urine, they derive an excretory quotient for the case of the individual. These quotients vary in the different individuals and in this way they are enabled to detect readily to what extent the kidneys are involved. This method is of value in detecting and differentiating cyclic albuminuria from the albuminuria caused by nephritis.

The quantity of albumin in these cases of cyclic albuminuria is small, as a rule, there is little or no change in the specific gravity of the urine. The albumin is serum albumin and is best detected by the use of acetic acid and potassium ferrocyanid. Nucleoalbumin may be present, but is rare. Subjective symptoms are absent, as a rule,—the individuals regarding themselves as healthy. However, the patient may be languid, and according to Marie, suffer from neuralgia, vertigo and other nervous disturbances. The arterial pressure is lowered in

all true cases of orthostatic albuminuria. If pressure is found to be raised, the case is very likely a case of true nephritis. The pulse is accelerated and the acceleration may be caused by the anemia and chlorosis found in these cases. There are no cardiovascular signs, the heart is normal.

The diagnosis is not difficult, if routine examinations be made at regular intervals in all cases showing the presence of albuminuria. An examination of the urine should be made in the morning and if albumin is absent, then a series of samples of urine should be collected throughout the day, at intervals of about two hours. If by this the urine shows orthostatic albuminuria, then all the other evidence of renal disease should be sought and eliminated. Casts, reduction of urea, lowered specific gravity and other symptoms should be excluded. The circulation must also be examined for changes due to renal disease and then the case must be examined at intervals, for a long time, to prove absolutely that it is a case of orthostatic albuminuria.

The prognosis is good, and most cases fully recover.

When casts are found in the urine and the specific gravity is lowered we must regard the case as one of true nephritis. Cases occurring after any of the infectious diseases are to be regarded as organic disease of the kidneys.

In the prognosis, the habits of the individual are important. He should be free from care and worry of business matters, he should sleep regularly and eat regularly—in fact, lead a sane, normal life.

We find in these cases a lessened resistance, compared to healthy individuals, a tendency to more readily succumb to intercurrent diseases. In this way it may run into nephritis, but most authorities are agreed that it does not usually lead to disease of the kidneys.

I think the true valuation of cyclic albuminuria is simply as a symptom of disturbance of the renal circulation, brought about by the influence of vasomotor paresis, whether this be caused by nervous influence, by the beginning of organic disease, floating kidney or congenital defects.

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The Fifth Disease—Epidemic Megaloerythema.

Even before Duke's description, in 1900, of a disease to which he chose to give the name "Fourth Disease," a certain number of cases

had been reported from Germany and France of a peculiar syndrome of symptoms that could not together enter any of the recognized types of disease, and to which, the meaningless appellation "Fifth Disease" has more recently, a number of times, been used.

The recognition of this fifth disease seems first to have been made in Germany, and was described there, as has been said, before the name fourth disease appeared, by Sticke, Ferlchenfeld, Plachte, and others. Sticke described the newly found condition under the term "Acute Infectious Erythema," Ferlchenfeld called it "Simple Marginate Erythema," and Plachte, "Epidemic Megaloerythema."

More recently, the French writers have found examples of this malady, Cheinisse's¹ article recites a bibliography on the subject and gives an ample and descriptive résumé. Moussois² gives a case history and mentions examples of its infectious character. This observer uses the more simple denomination, "Megaloerythema."

De la Harpe³ adds cases that illustrate the unique character of this affection.

From the descriptions of Cheinisse and De la Harpe, the following may be drawn:

1. The incubation of the disease is from six to fourteen days.
2. It begins without prodromata.
3. The course of the disease is apyretic.
4. There are no enanthemata.
5. The earliest objective symptoms consists in a redness of the cheeks which does not involve the nose, mouth or ears, this discoloration is apt to have a purplish tint and does not resemble the characteristic eruption of the disease.
6. The exanthema appears first on the arms and thighs, starting at the shoulders and hips respectively and descending toward the extremities. The character is that of plaques more or less large, paler in the center, with deeper periphery, giving a certain marbling effect, in rings or bands. The rash respects the neck and the trunk.
7. There is no lymphatic involvement.
8. The course of the disease is from six to ten days, and relapses have been observed.

De la Harpe suggests that, perhaps, the so-called fifth disease may be an attenuated form of rubeola. Cases have been observed during epidemics of this disease.

Cheinisse, however, seems to favor the distinction more strongly and insists especially on the following differential points:

Rubeola has a febrile invasion, it begins on the face and neck and invades the entire surface of the body, and is accompanied by lymphatic involvements. The fifth disease is always without fever, it does not involve the mucosæ, the neck nor the trunk; there are no ganglionic enlargements. He, however, does not make very positive statements and has observed a case which evolved into a typical rubeola.

Moussous agrees with most of these observations, he found an absence of prodromata with the exception of a slight malaise, the onset was always brusque and there was never any fever. No cough nor coryza existed and no adenitis. The rash did not involve the nose, mouth, chin or ears, nor the neck. He, however, observed faint blotches on the trunk anteriorly and posteriorly, a symmetrical distribution of the erythema was very marked on the superior and inferior extremities. The lesion consists, according to him, of reddened plaques, somewhat elevated, with rounded borders, sometimes discrete and nummular, sometimes confluent, when they appear as larger areas with polycyclic borders. Usually the plaques measure from 2 to 3 cm. in diameter.

His differential points from rubeola are: The absence of any exanthema, the particularity of distribution, the absence of any pruritus, the successful metamorphoses of the rash, the absence of polyadenopathy, absence of fever, of prodromata and of general systemic reaction. He believes the disease to be the same as that earlier described by Escherich, Tschamer, Plachte and Sticke.

If this clinical syndrome will finally be found to be of a character, unique and dissimilar from that found in other infectious exanthematic diseases, it is to be hoped that the term Megaloerythema or some other term somewhat descriptive will be used instead of giving the disease a number.

BIBLIOGRAPHY.

¹Cheinisse.—*La Semaine Medical*, May 3, 1905.

²Moussous.—*La Gaz. des Sciences Medicales de Bordeaux*, No. 50. Abstract in *Le Jour. de Med. et de Chir.*, Jan. 10, 1906.

³De la Harpe.—*La Rev. de la Suisse Romande*. Abstract in *Le Jour. de Med. et de Chir.*, Jan. 25, 1906.

Cornu Cutaneum in Human Scalp.

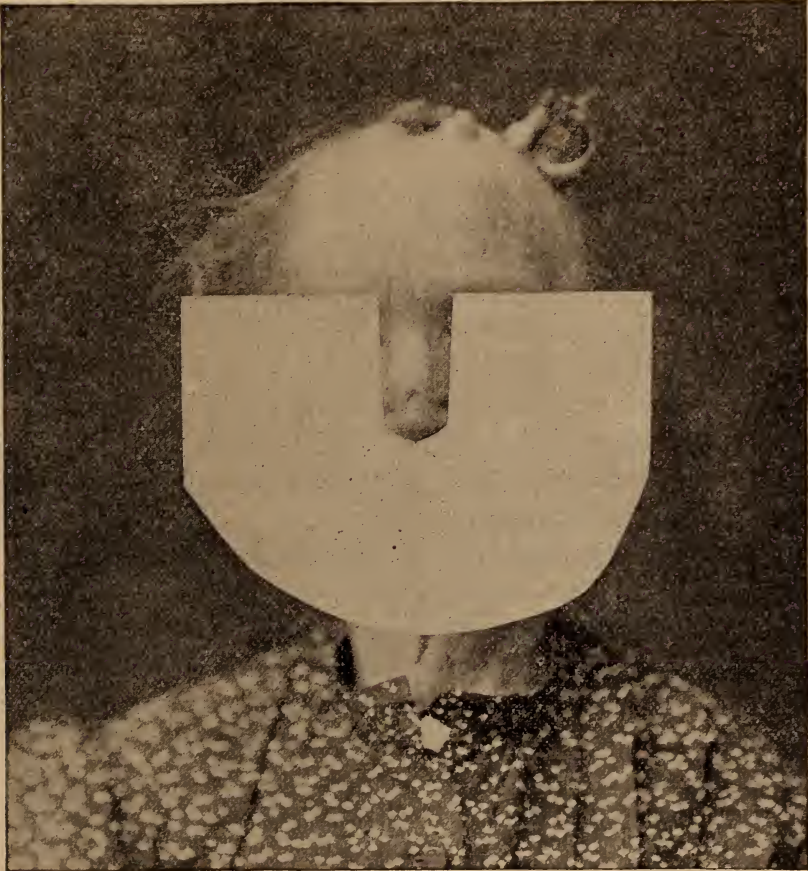
Mortal man is, indeed, subject to many very peculiar and, very frequently, very distressing affections. Perhaps the most curious, and possibly the most rare of the various classes of tumors to which he is subject, is multiple horns—especially horns of the scalp. In the days



of Michael Angelo these growths were considered as indicative of great wisdom and power, hence, when this renowned artist executed the painting of Moses he adorned (?) this patriarch's head with two horns.

No part of the human body is exempt from horns; we often find them in dermoids. In, by far, the greater proportion of the cases, however, they involve the scalp. It is very rare, indeed, to find two

horns appearing at the same time in an individual scalp. Pancoast has observed multiple horns upon the face. They have also been found upon other parts of the body.



Human horns differ from those found in animals by being non-uniform in size, shape, etc. The largest horn that has been found in a human being, grew upon the side of the patient's head; it was fourteen inches in circumference, and divided at the apex into three shafts. In Bellamy's patient the horn grew from the clitoris and resembled the claw of a lion. Soubervielle refers to a case in which the horn was ten inches in length.

Cutaneous horns have been observed in birds, mice, and other members of the lower animal kingdom in which horns are normally

absent. In birds the horns grow rapidly, and often attain great lengths; they are cast off when the birds moult. In the museum of the College of Surgeons is a horn 28 cm. in length, which grew from the flank of a ram.

According to Bland-Sutton there are four varieties of horns: 1, sebaceous; 2, warty; 3, cicatrix; and 4, nail. The variety concerning which mention will at present be made, is the sebaceous horn. Bland-Sutton contends that sebaceous horns are formed in consequence of the protrusion of the contents of a sebaceous cyst through a rupture in the cyst wall, or through the duct of the follicle, which becomes desiccated on exposure to the air. * * * Very recently, Nietert and Babler have severely criticised the latter contention; they emphasize the fact that the exciting factor is a blow, or anything that causes certain changes in the sac tissue whereby horny cells are constantly produced. Crocker and others are of the opinion that horns always begin in the rete mucosum or the homologue of it lining the glands and follicles; there is always hypertrophy of the papillæ, and upon these the horn is built up, being composed of columns of epidermic horny cells, generally without nuclei.

Many years ago Paget was of the opinion that there was some relation between horns and epithelial cancer. He referred to a case of soot-cancer in which the borders of the ulcer showed spur shaped, sharp-pointed processes which Paget believed were cancerous. At present, it is admitted that carcinoma often follows the presence of a human horn. Nietert and Babler say: "It seems quite probable that the constant irritation naturally resulting from the presence of a horn prepares the tissues at the base of the horn for carcinomatous invasion."

In the June number of the *Annals of Surgery*, Drs. Nietert and Babler report an interesting and unique case of multiple horns of the scalp; the patient also possessed four sebaceous cysts of the scalp, and a cutaneous cancer of the nose. The patient's mother, sister, and three children had possessed sebaceous cysts of the scalp; there was no malignant or tubercular history in family; the patient had observed the presence of the cysts twenty years before she came under the notice of the writers; she noticed a warty growth upon her nose seven years ago, and had the tumor removed by a dermatologist, but one year thereafter it returned. About six years ago the patient fell down

aflight of stairs, striking and injuring one of the cysts, which latter discharged a corn-meal like substance; five years later two horny-like growths were observed, the growth in the ruptured cyst being the larger of the two. During the following few weeks the patient observed a peculiar and offensive discharge. (See illustrations).

The treatment of horns is, of course, excision. It is scarcely necessary to say that they should be removed as early as possible. Local anesthesia is usually employed.

E. A. B.

ORIGINAL ARTICLES.

The Relation of Syphilis to Cancer of the Mucous Membranes.

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It has been my firm belief for many years that all diseases that are transmitted from one person to another by physical contact, or by being in the same locality, originate anew many times and in many places. I know that it is the belief of many—of the great majority, in fact, that smallpox, for instance, has been transmitted from one person who has smallpox to another from time immemorial; but there are many facts which tend to disprove any such a theory. I will admit that, as a general rule, contagious diseases are so transmitted; but there is abundant and strong proof that, in many cases and in many localities a contagious disease originates where it has not before existed, and the person taking the disease will then transmit it to others.

I remember making the statement in a medical society, twenty-five years ago, that I believed that, were ten thousand men and as many women, placed on a beautiful island, in the Pacific Ocean, all free from any disease whatever, and that no ships were to land there, and no communication had with any main land, or other island, in twenty-five years, syphilis, gonorrhea, measles, diphtheria, scarlatina and other contagious diseases would exist there. Unfortunately, it almost cost me my life, in order that my theory might be demonstrated.

On April 24, 1897, I got a needle puncture in my left thumb, while closing an ordinary laceration the of cervix uteri. On the next day, (April 25th) I curetted a cancerous rectum, in the forenoon and, in the afternoon, I curetted a cancerous uterus. The cancerous process had begun in the cervix; but, several years previous to that time, Mr. Lawson Tait, of Birmingham, England, had amputated the cervix. The trouble returned, however; and when I saw the lady, the stump of the cervix, endometrium, the broad ligaments, tubes, ovaries and lateral walls of the vagina were all involved. My reason for the curettement was that, in my absence, another physician, who had been called, had scraped off a cancerous nodule with his finger nail, and had started a fearful hemorrhage, and at three different times in forty-eight hours, the patient had bled almost to exsanguination. I scraped off the stump of the cervix and also scraped out the thickened endometrium, and packed with plain gauze, wrung out of a mild solution of Monsell's solution, to stop the hemorrhage, which it did. At both of these curettements the needle wound in my thumb smarted and stung, quite a good deal. Ten days afterward, there was an oblong, indurated lump at the site of the needle puncture, which was quite tender. Twenty days afterward there was an angry looking, open sore at this point; and, six weeks afterward, I was in bed, with the lymphatic glands in cervical region, in axillæ, in groins—everywhere, infiltrated, and every joint and bone in my body was racked with pain. I had some fever, and I was a very, very sick man. The thumb was a sight, and twice, friends of mine came near amputating it. At the tenth week, from the time of infection, there appeared all over my body an unmistakable maculo-papular syphilide. Competent and expert consultants were called and they verified my own diagnosis, of syphilis.

As a proof of the correctness of the diagnosis, under mercurial inunction (I could not take the drug in any form, by the stomach), this eruption disappeared within about three weeks. I kept up the use of the mercury, by inunction, however for more than a year—using the mercurial salve on going to bed, for a month, and then resting and taking a tonic for a month; and I thus alternated, between the mercury and the tonic, until the so-called "tertiary manifestations" appeared.

These appeared in the form of serpigenous syphilides, on

hands, face and ankles, and syphilitic psoriasis, on the arms, shoulders neck and scalp.

As the treatment of these manifestations has nothing to do with the object of this paper, I will pass it over, as that is another story.

I carefully investigated the case of the lady upon whom I was operating when I received the needle puncture, and also the man whose rectum I curetted and the lady whose cancerous uterus I curetted, and ascertained to my own satisfaction that neither of them had ever had syphilis. Then the question very naturally arose in mind, from what source did I contract the syphilis?

I remembered that a quite prominent surgeon had died here some years previous to that time, after having been infected through an abrasion on his hand, while performing a vaginal hysterectomy for cancer of the uterus, and every physician who saw him insisted that he had a plain case of secondary syphilis; but, having been poisoned while operating upon a cancerous uterus, he would not take antisyphilitic treatment, and so, died. I read in one of my journals that a prominent gynecologist of Chicago had died, after having been infected while removing a cancerous uterus. I wrote to a prominent specialist in Chicago, and asked him if he knew of what this gentleman died. He answered promptly, "I was in consultation in Dr. X's case. He died of a plain secondary syphilis?" I received the same answer regarding the death and the cause leading thereto, of a prominent surgeon in Detroit, of another surgeon in Louisville, and of another in Pittsburgh. All had operated upon a cancerous uterus, all had become infected, none of them, so far as I could ascertain, would take antisyphilitic treatment, all died, although a diagnosis of syphilis had been made.

I remembered that, more than twenty years previous to that time, a physician, living in the same town where I then resided, came to me and exhibited a sore on his right thumb, which had an indurated base; and, in fact, presented all of the physical characteristics of a primary chancre. He was much alarmed, but, as we could find no source from which he might have been inoculated with syphilis, we decided to wait. Six or seven weeks afterward, he came to into my office, covered with an unmistakable secondary syphilitic roseola, and his hair and beard were coming out badly. He was given a mercurial

treatment and got well. Since my misfortune, this gentleman has informed me that some time prior to the appearance of this sore on his thumb he lanced an abscess just outside the sphincter ani, in an old lady who had cancer of the rectum, she kicked him and he lost hold of his knife, and in recovering it, the point stuck in and wounded the thumb just where the sore afterward appeared, and the pus flowed over this same thumb.

I also remembered that more than twenty years previous to that time, a young man came to me, exhibiting an unmistakable primary chancre, in the usual place, and was much chagrined, because some time previous, he had formed relations, offensive and defensive, with a widow, both promising to have no relations with other men or women. He looked upon his present condition as an evidence that the widow had broken the compact, as he had not done so. The widow, having been accused by him, came to me for an examination, and I found her skin as clear and free from any syphilitic manifestations as it were possible to be, though she said that she had a discharge from the vagina, but had had it since the birth of her last child, three years previous. As there were no skin manifestations, I did not examine the uterus or vagina.

This confusing matters somewhat, we decided to wait; and, in the usual time, the secondary eruption appeared. I put the young man on a two years' course; and before that two years ended, the widow died of cancer of the uterus. Even then it did not occur to me that a man could contract syphilis from a cancerous uterus; and, in fact, such a fact was so foreign to all experience that I never thought of it.

After recalling these cases and ascertaining the facts regarding the death of so many surgeons, after they had been infected while operating upon a cancer of a mucous membrane, and taking my own experience into consideration, I became so convinced that, in the putrefactive changes and degenerative processes which take place in cancers of mucous membranes, some special poison is developed which, when introduced into another person, produces the disease we call syphilis, that I wrote a paper, which was published in the *New York Medical Journal*, November 5, 1898, in which I took the ground above laid down; and I gave as a reason why so many died from such an inoculation the fact, that they *were first cases*, and the inoculated surgeon, knowing that he was pois-

oned while operating upon a cancer, would not admit that his ailment was syphilis, and, therefore, would not take antisypilitic treatment.

I say, "*they were first cases.*" I mean by this that we know by experience that in the inception of any epidemic of a contagious disease, the disease is much more virulent than it is after the epidemic has run for some time. The reason given for this is, that the special germ of the contagious disease is more active and virulent in the beginning because, after it has been run through a great many animal organisms, it became weak and attenuated, and hence less dangerous.

It is, no doubt, the experience of every physician that he has treated cases of syphilis that were exceedingly hard to control, and, again, he has treated cases, in which the primary lesion soon healed, and the secondary eruption, if permitted to appear, was easily suppressed; and, beyond this, there were no further manifestations. Now, I hold that, the first and worst case was not far removed from the original case; and that the second one was far removed; hence, in the latter case, the special germ, whatever it is, was weak and attenuated and, hence, not virulent. We note the same thing in vaccination against smallpox. If we vaccinate the child with the serum direct from the heifer, we find that the child will, as a rule, have a badly inflamed and swollen arm, will have a severe fever; and, in many cases, will have to go to bed and will miss school for a number of days. Now, take the crust from this child's arm, and vaccinate another child, and take this second crust and vaccinate another and so on, until we have passed down the line through quite a number of children. We all know that it will finally become so attenuated that it will not make a red mark, nor will it confer immunity against smallpox. Our grandmothers' used to say, "I guess it has run out. We will have to get a quill." They knew nothing about germs, nor about attenuation, but they knew what was just as valuable to them—that vaccination "ran out," and became weak, and that they must go back to the original source, in order to get material that would accomplish what was desired. Now, this first vaccination is analogous to the inoculation of the surgeon from a cancerous mucous membrane. The germ, whatever it is, is in its most virulent form, and the surgeon, having been infected from a cancer of a mucous membrane,

does not think that his ailment is syphilis; and, therefore, will not take antisyphilitic treatment.

In my report of my own and the other cases referred to herein, in the *New York Medical Journal*, November 5, 1898, I asked physicians everywhere, who knew of any such cases, to give me the facts. In reply, I received about seventy-five reports of such cases within the next year. In removing to San Antonio, Texas, in 1900, and returning to Kansas City, in 1902, these reports were unfortunately, lost. But some points in all of them I remember distinctly, *i.e.*, that, in every case the doctor was infected while operating upon, or handling a cancerous uterus, or rectum; in every case the doctor had an eruption, which was pronounced by supposed competent authority to be syphilis. In no case would the doctor take an antisyphilitic treatment, because, as he said, he had been poisoned while operating upon a cancer, and not upon a syphilitic lesion; and in every case the doctor died, and this is true of all the cases of which I have had knowledge, or which has been reported to me, except myself and the doctor referred to, whom I treated twenty-five or more years ago.

I remember that, out of the number of cases reported to me, there were twenty-six which I would not have hesitated in using in a paper like this. Many of the cases were like this: "When I was a student my preceptor attended upon an old doctor out in the country, who had got a sore on his hand, infected while treating a cancerous uterus." "My preceptor pronounced the case to be syphilis, but the old doctor would not take mercury, and so died."

Doubts were expressed, by some medical journals, as to whether my theory was correct; and, therefore, as to whether I had really accidentally stumbled on to an important discovery or not; but all admitted that the cases cited were most significant and my argument followed along scientific lines but none of them thought that the seven cases cited were sufficient to establish a fact so important, and, if true, so absolutely new, and contrary to the observations of physicians and surgeons generally.

I hold now, and, I think with good reason, that the great number of additional cases brought forward, ought, at least to be sufficient to stimulate those scientific gentlemen who prove, or disprove such things, by vaccinating rabbits and guinea pigs,

to go to work and demonstrate either the truth or falsity of my claims.

I feel quite sure that if such diseases as syphilis, smallpox, gonorrhea, etc. did not originate anew, those diseases would, in time, "run out," in short that the special germ of such diseases, would become so attenuated, after having been run through so many animal organisms, they would cease to exist, and mankind would be entirely free from them.

I have attended a case of measles in a little planked up, pine cabin out on the prairie, two or three miles from other neighbors, and where the child had had no opportunity to have contracted the disease from other children. I hold that that case of measles originated right there in that new home, that certain conditions existed from which the germ of measles developed and became perfected right there in that house.

I have also attended cases of diphtheria and scarlaine in localities where the disease had not existed before, and where there had been no opportunity for it to have been introduced from elsewhere. To my way of thinking, these are all cases where the disease originates anew, and that it then may, and generally is, communicated to others. After a case has once originated and is spread by contact with others, it begins to gradually grow weaker and less virulent, until it finally disappears.

We had an epidemic of smallpox, in Kansas City, in the winter of 1899, which evidently came from Cuba, or Old Mexico, in which latter place it is said to exist all the time, and this epidemic was so mild that, out of more than seven hundred cases treated in our pest house, only seven died, or less than one per cent; and yet, we all know how virulent smallpox often is, and how the death rate may run up to thirty, forty and even as high as seventy-five per cent. Now, I hold, that two such epidemics—one so virulent and one so very mild, are from two distinct points of origin—one remote and the other near at hand.

If gentlemen who argue against the correctness of my theory will think a moment, I will prepare a way by which they may become inextricably hobbled. Here is a question, containing a great big nut, which I desire to have cracked: From whence came smallpox, syphilis, gonorrhea, measles, cholera? etc., etc. Did they *start* from some particular point? If so, then it must be that the conditions from which this start was

made must have existed somewhere, and the germ of disease must have developed and became perfected so that it was communicated to some human being. Now, if this be true, then would not the same conditions, existing in another locality, and at another time, cause the same germ to be developed and perfected; and, if so, and this germ were introduced into the body of a human being, would it not cause the disease to start again, from this new point of origin? In short, if the disease started originally, from certain conditions existing in some locality, favorable to the development of the germ causing it, then would not these same conditions favorable to the development of this germ, existing in another locality and at another time, cause the disease to start anew from this new point? It seems to me that the argument is unanswerable.

[3031 Wabash Ave.]

CURRENT EDITORIAL TOPICS.

Ehrlich's Theory in Danger.

Some very interesting work of Craw (Proceedings Royal Society, March, 1906) on the filtration of crystalloids and colloids through gelatin receives editorial attention in the New York *Medical Journal*, May 12, 1906. This investigator made gelatin filters by forcing a solution of gelatin through a heated Pasteur-Chamberland candle and allowing it cool. He ascertained by experiment that there is a difference in the behavior of crystalloids and colloids as their solutions are passed by pressure through the gelatin, "but the old idea that crystalloids pass such a filter unchanged and that colloids are retained is no longer tenable." Both colloids and crystalloids are retained partially. To quote:

"Colloidal substances, such as ferric hydrate, serum, and soluble starch, are also retained by the gelatin filter and to a greater extent than the crystalloids. As filtration proceeds the retention of crystalloids gradually decreases but that of the colloids increases until none comes through the filter. The simultaneous filtration of two substances, such as butyric acid and sodium chlorid or iodid and potassium iodid, influences the permative power of each substance. Variations in the strength of the gelatin solution of which the filter is made

influence the permeability of the filter, and the addition of a substance like formic aldehyde to the gelatin renders the filter less permeable."

The variation of pressure also causes a change in permeability, and while most of these differences may be explained on mechanical grounds, the author believes that the chemical relations also have some significance. The most satisfactory view is that the gelatin acts by adsorption on the chemicals passed through it.

The writer concludes:

"The experiments reported by Craw were suggested by the behavior of the toxin for erythrocytes secreted by *Bacillus megatherium* and that of its specific antitoxin. In filtering mixtures of hemolysin and the antilysin it was found that the former passed through the gelatin filter readily, but that the latter was retained. Further studies showed that a definite quantity of the antilysin did not completely neutralize a similar quantity of the lysin, but that the lysin took up the antilysin much as a tissue takes up dye; in other words, the antilysin is adsorbed by the lysin. These results controvert the views held by Ehrlich, on the one hand, and by Arrhenius and Madsen, on the other hand, and are in harmony with the theories of Landsteiner and Bordet."

Bacteriological Diagnosis of Syphilis.

The New York *Medical Journal*, May 5, 1906, discusses the work of LeSarud, etc., who investigated the probability of making a diagnosis of syphilis by the detection of the spirocheta pallida and the inoculation of monkeys. That it is possible, there can be no doubt, but that it should at present give promise of important results must be denied. To quote:

"Out of 39 suspected cases with superficial lesions, they found the parasite in 30. They recommend that the examination be not made of the first scrapings, in which spirochetæ are always scarce, but of the serosity which exudes after the scraping of the surface, in which the spirochetæ are always more abundant. Experiments made upon animals show that this material is inoculable; on the contrary, the cephalorhachidian liquid and the pleural effusion, in which no spirochetæ were found, gave negative results. They not only succeeded in constantly inoculating monkeys with spirochetæ from exudations of chancres and mucous patches, but they also succeeded with Brunet, in following a spirocheta during its third passage through the inoculated

monkeys. The preferable method in the diagnosis of a suspicious lesion, according to these investigators, would be to at once inoculate a monkey (generally upon the eyebrow), then to take sections and examine them, and in the last place to examine the scrapings. However, in practice the examination of the scraping will come first, since it is regarded as being of itself sufficient to establish the syphilitic nature of the lesion by demonstrating the presence of the *Spirocheta pallida*, and therefore, to make a positive diagnosis. In the class of mixed chancers, the examination of carefully stained scrapings will reveal the simultaneous existence of the spirocheta of Schaudinn and the bacillus of Ducrey. The results of the inoculation of monkeys also will give the characteristic lesions of these two infections "

Aseptic Fever After Operations.

The New York *Medical Journal*, April 28, 1906, comments on an article by Charrin and Jardry (*Semaine Medicale*), who reported upon certain attempts to explain aseptic fever. Experiments were made on dogs. Into small incisions of the thigh or abdomen about an ounce of the dog's blood was injected. Several hours later they observed a sudden rise in temperature which lasted from one two days. To quote:

"Histological examinations, cultures, and in particular the absence of a period of incubation showed that there was no infectious process. They produced similar results also by injecting saline solutions, cellular extracts, a diastase, or, above all, fibrin ferment. They remark that in cases of such fever occurring in the human subject there may be an added influence resulting from the establishment of the mammary secretion or from the nervous and emotional excitement that is apt to occur in patients who have been operated on and in women who have been newly delivered—conditions which react upon metabolism and consequently on the thermogenic function.

"It is highly desirable of course to be able to distinguish these benign febrile states from the fever of infection. More commonly than is the case with an infective process, the tongue remains partly moist, the urine is abundant, and the expression of the face is comparatively natural. The authors think it is possible to base a distinction on these features, and if that can be done the prognosis is absolutely favorable. They speak of the cause of the aseptic fever as chemical, and they add that the effect is of brief duration. Perhaps such conditions as they have imitated experimentally may account for many a case of ephemeral fever and of the "milk fever" of the old writers."

Air and Exercise.

"No remedy known to man has such a powerful and permanent influence in maintaining or regaining health as the judicious employment of cheerful, exertive exercise in the open air; and properly attended to in a timely manner, it will cure a large majority of all curable diseases, and will sometimes succeed when medicines have lost their power."

The *Medico Chirurgical Journal*, April, 1906, emphasizes in these words the value of this powerful remedy in all conditions in which the body resistance is low, the nervous system irritable or digestion is faulty. Exercise promotes the excretion of waste matter. To quote again:

"In proportion, then, as you exercise, you get rid of the old, useless, or diseased particles of the body, and by eating substantial, plain, nourishing food, you supply new, healthful, life giving particles in their stead; therefore, every step you take tends to your restoration, provided that step be not taken in weariness and fatigue; for then it prepares the way for a greater destruction of living particles, rather than a removal of the old. You will never fail to find, that whenever you overdo yourself, in the way of exercise, you will always feel the worse after it. The exercise must be always adapted to the strength, and the rule is imperative under all circumstances, stop short of fatigue. This applies to mental as well as to bodily operations. But if you say, as many others have said, and died, "I can't help it," then you must take the consequences and responsibility. If you do not use the means of health, you can not be cured. If you really and truly can not use them, that inability does not alter the necessity of their observance, nor the effect of their neglect."

Sexual Morality.

"It is a remarkable thing that the subject of sexual morality, which is closer than most others to the happiness of domestic life, should have been most neglected of all the subjects of teaching."

The New York *State Medical Journal*; April, 1906, introduces a timely topic with this sentence, and expresses a regret that educators have so tardily proceeded to apply the great principle, which Herbert Spencer had already laid down, that a knowledge of the laws of health was really the supreme safe guard of happiness. The writer continues:

"Neglected by the church, posing as the guardian of public and individual morality; with studied care ignored by the school, from which the child should receive the instruction which best fits him for happiness and usefulness; and, saddest of all, avoided with prudish cowardice by the parent, whose obligation it is to point out the path by which the child should walk—this question of sexual morality has been left for elucidation to the lewd companions, the gamins of the street and the habitués of the brothel. It is to be hoped that the attention now being given to this subject may increase in power and in results, to the end that the neglect which it has suffered may be atoned for."

The present sane movement in the direction of education pertaining to sexual matters had its origin in the study of the prophylaxis of venereal diseases. In regard to these efforts the writer states:

"There is no need for hysterical revivals. The matter has been taken up by medical bodies and societies under medical guidance. The simple truth is all that is needed. That will make us free—free from the ignorance which lain at the root of sexual sins. The physiology of the sexual organs should be *taught*, not vaguely and covertly hinted at. The fallacy of sexual necessity, promulgated by the sexual sinner, should be replaced by the knowledge that the exercise of the sexual organs is not necessary for health. The prevalence and the direful results of venereal diseases should be known, and especially their consequences to the innocent. And, finally the meaning of *normal marriage* should be made clear to all young men and women. Marriage can be founded neither upon sexual feeling nor platonic affection; it must combine mental and animal harmony in the divine passion of love,

"The teaching of the truths which are necessary for the happiness and usefulness of the child should begin at home. The greatest responsibility rests upon the parent. This instruction should be continued in the school; and the church, and other organizations for moral instruction can well afford to devote some attention to the teaching of these most helpful truths. Education, not legislation, is the solution of this great problem. Violations of the health of the body are moral sins, in which no remedy is so effective as the simple knowledge of the truth."

Prophylaxis of Malaria.

Years ago the only promising prophylactic measure used in malarial regions was the administration of quinin, and after a prolonged

search of mechanical preventive means, we are coming back to our old friend. To quote from *Medical Record*, April 28, 1906:

"Professor Celli of Rome, who has had unlimited opportunities for studying the Italian fevers, claims, however, in an article in the *Archiv f. Schiffs und Tropen Hygiene*, Vol. 10, No. 2, that the proper administration of quinin is unsurpassed as a preventive measure. He believes that the failures which have attended this method may be attributed to the administration of an insufficient quantity or to the prolonged intervals between doses. Thus Koch recommended that the drug be given every seven to ten days, while Celli advises daily doses of from forty to sixty centigrams (six to nine grains) of the bisulphate or the hydrochlorate of quinin in the form of sulphate sugar-coated tablets. In Italy the government has been sufficiently impressed by the value of this procedure to provide for the gratuitous distribution of the tablets among the poorer classes of the population.

"Contrary to what might be expected, it has been found that all evidence of cinchonism disappears within four or five days after the beginning of the administration, and no further disturbances of the nervous or digestive systems are evident. On the other hand, where the quinin was given at weekly intervals, the toxic symptoms were produced anew at each administration. The daily use of the drug was accompanied by other advantages, among them, well-marked tonic effect. In addition there was no inhibition of the curative properties of the drug, for it was repeatedly shown that if an individual thus treated in a prophylactic manner became later the subject of an acute malarial attack, the latter was never severe or prolonged, and responded readily to therapeutic doses of quinin. Celli also found that the various patented derivatives of quinin and the preparations of arsenic or iron so frequently used in chronic malarial poisoning, had practically no effect as prophylactics."

Magic Cures.

The firm belief in magic cures held by the ancients is thus quaintly expressed by Galen in his essay on Homer: "Many, as I have done for a long time, believe that conjurations resemble the fairy tales of old women. But gradually and from observations of facts I have come to the conclusion that power is exercised by them, for I have learned to know their advantages in stings of scorpions, and also in bones which become lodged in the throat, and which were at once coughed up as a result of conjuration. Many remedies are excellent in every respect, and magic formulæ answer their purpose."—"Superstition in Medicine."

MEDICAL DIGEST.

DEPARTMENT EDITORS.

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Diagnosis of Renal Function.

The clinician is beginning to doubt the extreme value of chemical and microscopical methods in the diagnosis of nephritis. It is not many years ago since the presence of a little albumin and a few tube casts in the urine of any person was enough to condemn him to an early grave. Several years ago Osler in a short, striking article called attention to the fact that albumin and casts do not necessarily signify a progressive nephritis.

Cabot, of Boston, has done good work in studying carefully a large series of cases, from the clinical standpoint and the postmortem findings, which he reported about one year ago in the *Jour. Amer. Med. Ass'n*. Another worker in this line is Emerson, of Johns Hopkins, who studied more than 1000 cases.

Cabot (*N. Y. Med. Jour.*, May 12, 1906) again sums up the result of this investigation and contends that the diagnostic question is not so much what the diseased organ looks like, but what function can this organ perform. He classifies the diseases of the kidneys into three classes: Renal irritation, which means all that is shown by albumin and casts in the urine; renal insufficiency, which may exist with or without albumin and casts, and shows itself chiefly in the physical character of the urine and the condition of the body (oliguria, dropsy, and uremia); nephritis, which shows itself in the postmortem appearance of the kidneys. To quote:

"These three sets of changes are frequently associated, but the association is by no means invariable, and if we try to infer from the one the presence of the other we are bound to fall into error. Renal irritation or insufficiency may exist without nephritis, for instance, in passive congestion of the organ, and we may have nephritis without

evidence of irritation or of insufficiency. Renal irritation and renal insufficiency, acute or chronic, are what we want to recognize and to treat."

The type of renal irritation most easily studied is that produced by violent muscular exertion. when the urine almost invariably contains albumin and casts. To quote again:

"Irritation, is of course, a very vague word, but when we search for a word wide enough to cover the urinary changes that may occur in the kidney from simple fatigue, from the presence of bile or sugar in a normal kidney, from fever, drugs, congestion after the handling of the organ as in the operation of nephropexy or nephrotomy, and also in all grades of the anatomical changes known as nephritis, what better word can we find? What I wish especially to emphasize is that the evidence of irritation, albumin and casts is not evidence of nephritis, which may or may not be present. Hence, the folly of sending a urine to a laboratory or to an urologist for diagnosis, or for anything more than a description of what he finds."

Renal function is determined clinically by the presence or absence of certain physical characteristics of the urine—dropsy, uremia, etc. In regard to various tests Cabot states:

"In some cases, however, the first and the only reliable evidence of renal insufficiency is the appearance of dropsy, of uremia, or of the heightened vascular tension that leads to cardiac hypertrophy. It is humiliating to have to confess that we can not accurately predict the coming of uremia, and that we often predict it when it does not come, but such is the fact. By methylene blue, by iodine, by cryoscopy, and by the measurement of electrical resistance, we have tried to measure the sufficiency of renal function before its gross deficiencies make themselves shown. But none of these methods have helped us to predict uremia or to measure to any therapeutical advantage the renal functions. Not one, not all of these tests can measure those functions of the organs which are essential to health.

"A very simple test to which I think insufficient attention has been devoted is that which seeks to determine whether and to what extent the kidney is able to secrete a dilute urine after profuse ingestion of fluid, or a concentrated urine when liquid is withheld. In the early stages of acute renal insufficiency (such as accompany renal stasis or acute nephritis) the kidney often loses for the time the power to secrete a dilute urine. On the other hand, in some cases of chronic interstitial nephritis the kidney continues to secrete a concentrated urine even when water is considerably restricted. Both for prognosis

and for guiding us in treatment this test seems to me to deserve a wider trial than it has yet received."

Chronic diffuse nephritis can usually be diagnosticated from the history, complete physical examination of the urine and body. In acute nephritis and chronic interstitial nephritis mistakes are common and unavoidable. Amyloid kidneys have have no special urine differing from others. Chronic passive congestion is often termed nephritis.

Time is necessary in diagnosis. The presence of albumin and casts is not serious but their persistence indicates nephritis.

Cabot concludes:

"1. Function, not histological appearances, are what we should strive to recognize in kidney disease.

"2. Albumin and casts alone never prove the existence of nephritis. They may or may not accompany it.

"3. The physical characteristics of the urine, the visceral evidence of uremia, dropsy and cardiac involvement, are, with time, our best help to the functional diagnosis of kidney disease. The dilution test, the concentration test and the quantitative estimation of the kidney's capacity to excrete particular substances, may be valuable."

Hyperemia as a Therapeutic Agent.

Bier contends that the curative effect of hot-air baths, hot sand baths, hot-water baths, etc., depends, not as has been supposed on the alterative effect of heat, but on the production of hyperemia. For fifteen years he has been working on this subject, and although Dumreicher (1875), Hagendorn (1880), and others have recommended its use for therapeutic purposes, Bier deserves the credit for working out a technic and determining the indications.

Bauman (Cleveland *Medical Journal*, April, 1906) makes a valuable contribution to the subject. To quote:

"The most important application of hyperemia have been to the cases of so called surgical tuberculosis. Habs in 1903 reported 300 cases of which about 200 were tubercular. A very large percentage of his cases of tuberculosis in the knee, hand, ankle and foot yielded readily to treatment of hyperemia. In many cases in which there was fluctuation and other signs of abscess in or about the joint, the fluctuating area first became hard and then disappeared. In some cases, after an apparent improvement, patients became worse and failed to

respond to treatment. Some of these cases went on to abscess formation but a good proportion yielded to iodoform injections and the further use of hyperemia. Habs reports only a small percentage of cures in cases of tuberculosis with fistulæ and probable sequestrum, but Bier reports much more favorable results, often obtaining good subsequent motion. Bier obtained his best results in the treatment of tubercular affections located in the hand, elbow, foot and ankle; he also used it in tuberculosis of the knee, obtaining as good or better results as are obtained by other methods of treatment. The cases which react most strongly to hyperemia heal most readily."

The second most important use of hyperemia is in gonorrheal arthritis. The method appears to be successful. Bier's case rapidly recovered. Bauman reports the history of a similar case. There was marked involvement of the wrist and ankle. A constricting rubber bandage was worn for one to two hours on several days, and rapid improvement resulted. The writer comments:

"It seems almost inconceivable that hyperemia continued for such a short space of time could have produced such a marked improvement as in this case, but any other explanation of this improvement seems insufficient. Naturally such rapid results as were obtained in these two cases can not be expected where deep-seated anatomical and pathological changes have taken place. From this it may be deducted that the earlier the beginning of treatment the better will be the result. After the pain has disappeared, usually the second to third day; careful passive and active movements may be begun and the hyperemia discontinued. The edema usually produced by the hyperemia soon disappears. Treatment by this method often prevents a stiff joint."

As to the technic, he writes:

"The technic of the application of the constricting bandage for the artificial production of hyperemia is simple and yet much practice is necessary in order to obtain the desired amount and degree of hyperemia and the exact dosage for each individual patient must be left largely to the judgement of the operator. Upon these factors depends the success or failure of this method of treatment in appropriate cases.

"The most satisfactory method of applying the constriction is by means of a rubber bandage. This should be smoothly applied some distance above the diseased part and should be allowed to remain from two to twenty two hours out of every twenty-four, according to the nature of the case. In acute conditions it should be left much longer

than in chronic. If there seems to be any danger from pressure of the bandage a gauze bandage may be smoothly applied under the rubber bandage. If possible, a different position should be selected each day. In treatment of the knee or elbow the limb below the joint may be firmly bandaged, thus confining the hyperemia to the part affected. During the treatment the part should be bluish-red and warm, and the pulsations in every artery below the part should not be affected. The application of hyperemia should never cause pain and should diminish it if present; if the bandage causes pain it is too firmly applied, producing then a dark-blue appearance, coldness of the part, and is not only ineffectual but often harmful as has been shown clinically and experimentally. At the same time the bandage must be sufficiently tight to produce a marked hyperemia and usually considerable edema. During the first and second treatment the patient must be kept under personal observation and to this end the bandage may be applied at the beginning of office hours and removed at the end. The patient very quickly learns the technic and may be trusted to apply the bandage himself, being instructed as to the length of time during which the bandage should be allowed to remain, the direction as to pain, the ability to feel the pulsation of the artery below, the warmth of the part, etc. If possible, the patient should appear daily for observation and other treatment."

Rectal Alimentation.

Have we any definite rules to guide us in rectal alimentation? We fear not. The average practitioner's ideas concerning this very important dietetic procedure are very vague. Most commonly peptonized milk is prescribed. This usually becomes decomposed and causes irritation of the rectal mucous membrane. An emulsion of egg has been used. Lately, probably by the teaching of Ochsner, a solution of some of the proprietary meat extracts and albumoses has grown in favor.

We wish especially to call attention to a very timely study of this subject by Boyd and Robertson (*Scotland Med. and Surg. Jour.*, March, 1906), who made most careful chemical analyses of various enemata used and also give historical data:

ABSORPTION OF ALBUMIN.

"Voit and Bauer seem to have been the first to carry out observations on the nitrogenous metabolism of rectal feeding; working with dogs they found that the absorption of albumin was greatly aided by the addition of salt.

"Eichorst repeated these experiments and obtained similar results.

"Leube, in 1872, published a paper on meat and pancreas enemata, by which he claimed to get an absorption equivalent to 500 calories per diem.

"Ewald, in 1887, contributed a paper on egg and peptone enemata which has been accepted as the basis on which most modern statements are made as to the value of rectal feeding. Exceptions may be taken to Ewald's methods, for phenolphthalein was used as an indicator in the nitrogenous estimations, and it is now universally admitted that phenolphthalein is useless as an indicator when dealing with ammonia. The results in this paper are expressed in the form of a graphic chart which, though at the first glance appearing very convincing, is in reality exceedingly complicated and difficult to follow. When the data are carefully analysed and the figures written down, they appear insufficient to form a metabolic profit and loss account, and the reader is unable from the data given to submit the author's claims to criticism. Judging by the results of other observers, the absorption of proteid in the cases quoted by Ewald, if it is to be accepted, is quite exceptional.

"Armin Huber, working at the nutritive value of egg injections, gives observations on three patients. The patients were kept on a fixed diet throughout the observation. For three or four day periods, enemata of emulsified egg or egg and salt were given in addition to the diet. The periods during which the enemata were given alternated with periods of food by the mouth alone. The results given by Huber are very variable—so variable that one is driven to conclude that there must be considerable experimental error in many of the figures. * * *

"Ehrstrom obtained relatively good results with the use of milk, grape sugar and pepton—a soda-casein preparation. His patient absorbed daily 3.62 gr. of nitrogen, and was not thereby kept in nitrogenous balance; but that is not surprising, as the total nourishment given was only equal to 800 calories.

"Bial claims to have got favorable results with the use of Witte's peptone; he made the observation on himself. There was first a period of starvation, followed by a one-day period during which three enemata of 250 cc. 10 per cent solution of peptone were taken; to one of these alcohol was added. Bial claims to have got an absorption 50.5 per cent of peptone, and 66 per cent in the case when alcohol was added. Eichorst's observations on a dog can scarcely be considered reliable, as the dog was suffering from glycosuria and albuminuria.

"Edsall and Miller studied two patients very fully. They worked with milk and eggs, and found that the nitrogen absorption daily was equal, in the first case to 3.041 gm. nitrogen, or 19 gm. proteid, while

in the second it equaled 3.809 gm. nitrogen, or 23.816 gm. proteid. There seems thus a consensus of opinion that albumin is but poorly absorbed even when predigested and when salt is added. This conclusion is the more remarkable when we consider how largely the white of egg is used in rectal feeding."

Their own conclusions may be accepted as the latest knowledge:

"1. Proteid food, even when predigested and with salt added, is very poorly absorbed in rectal feeding.

"2. The albumin of eggs, as generally used in rectal feeding, is a very expensive and unsatisfactory foodstuff.

"3. There is no relation between the amount of proteid injection and the amount absorbed. Absorption seems to depend more on the patient's individual capacity for absorption than the amount of proteid food given."

ABSORPTION OF FAT.

According to Munk and Rosenstein about 55 per cent of fat is absorbed, and the lower its melting point the better it is taken up.

Deucher concludes that 10 gm. of fat per diem are absorbed with difficulty even in favorable circumstances. He found that salt aided the absorption. The author found a definite relation between the amount of fat given and the amount absorbed. "Taken as a whole, these observations show that emulsified fat is a very useful ingredient in rectal enemata, and is very much better absorbed than is generally considered."

ABSORPTION OF SUGAR.

Various authors who have studied this subject have shown that sugar in varying percentages (70 to 100) is well taken up by the bowels.

Boyd used pure dextrose and nearly all of it was absorbed. To quote further:

"The important point for the clinician is, how far can rectal alimentation be relied on as a means of nourishing a patient if gastric rest is indicated as a therapeutic measure. How far can a patient's nutrition be kept up during a period of gastric rest? The standards of food requirements which have generally been accepted are those of Voit and Atwater. These expressed simply in their protein and energy value, are—

			Protein, Gm.			Energy Value in Calories.
Voit,	-	-	85	-	-	1860
Atwater,	-	-	100	-	-	2700

"Chittenden, however, in his recent work on 'Physiological Economy of Nutrition,' has established a new standard of dietary requirements. He carried out a series of experiments on himself and his colleagues, as representing professional men, and on a number of typical athletes, and found that in the athlete, as well as in the less active or professional men, health and undiminished working capacity could be maintained with an intake of proteid food far below the quantity generally consumed, and that without increasing in any measure the amount of non nitrogenous food."

The caloric value in Boyd's cases was much below that claimed by Leube. As to the actual value of rectal feeding the authors state that it can not be relied on to produce any material improvement in nutrition.

"If the physician desires to make use of rectal feeding, it seems from our observations that the best results will be got from carbohydrates and fat. The absorption of proteid food from the bowel is so small as to make it of little value as a foodstuff "

Fat is best given in its natural state, as yolk of egg. It should be in an emulsion. We quote further:

"For practical purposes a good nutrient enema consists of—

The yolks of two eggs,
30 gm. pure dextrose,
.5 gm. common salt,
Pancreatized milk to 300 ccm.

"The approximate caloric value of such an emema equals 300 calories. Given every six hours the total nourishment injected would equal 1200 calories. Absorption under favorable circumstances might equal 500 calories, but most probably would be much less.

"In rectal feeding the method of administration and the size of the enema are both important points. Nutrient enemata should never be administered with a syringe. To place a syringe in the hands of a nurse is to court failure. Substances rapidly injected into the bowel will as promptly be returned. The enema should be very slowly syphoned in by means of a soft rubber catheter and a small sized filter funnel. Retention of the nutrient material is not then a matter of

difficulty. If there be bowel irritability, a small dose of morphia may be added to the injection. The daily cleansing of the bowel with a saline injection is, of course, an absolute necessity."

As to the quantity to be used, it is stated that 8 or 10 ounces may be given if injected slowly. They conclude that rectal administration has a much more limited field of usefulness than is at present accepted.

SURGICAL DIGEST.

DEPARTMENT EDITORS

Dr. E. A. Babler, Surgery.	Dr. Geo. Gellhorn, Obstetrics and Gynecology.
Dr. M. G. Gorin, General Surgery.	Dr. Phil Hoffman, Orthopedic Surgery.
Dr. W. A. Shoemaker, Ophthalmology.	Dr. H. J. Scherck, Genitourinary Surgery.
Dr. Selden Spencer, Otology.	Dr. J. A. J. James, Rhinology and Laryngology.

Abdominal Contusions.

Experienced surgeons concur in the contention that grave intra abdominal lesion frequently follows an apparently trivial abdominal contusion; that the severity of the initial shock is not a reliable criterion of the severity of the visceral injury; and that there are no early symptoms pathognomonic of intra abdominal laceration. The question naturally follows: What symptom or group of symptoms are to guide the trained practitioner? What existing conditions enable him to feel confident—correctly so—that an intra-abdominal injury does or does not exist? Surely no practitioner is willing to sit idly by and await the appearance of symptoms of a developing peritonitis; he refuses to feel justified in delay until the extreme pallor, the sighing respirations, the intense thirst, the dyspnea, the distressingly tender, distended abdomen show that the patient is bleeding to death.

What combination of findings are to guide him? In by far the greater proportion of the cases of abdominal contusions the accurate clinical history, the persistency and character of the early symptoms, and a careful consideration of the effect of the blow upon the patient as evidenced by the expression, the pulse, the posture, the respirations, and the restlessness; as well as the changes which have occurred in the abdomen as indicated by the pain, the temperature, the localized tenderness, the muscular rigidity, the distention, the changeable dul-

ness, the peristaltic activity, the urinary, and general findings will suffice to guide correctly.

In many instances the clinical history alone will arouse grave suspicion. Gage, Makin, Curtis, and others, attach a great deal of importance to the nature of the blow. Makin found that 70 per cent of the cases of intestinal rupture were due to sudden, sharp blows; 30 per cent to the passage (over the abdomen) of heavy objects. LeConte voices the consensus of opinion when he says: "If the force be circumscribed and of high velocity and small inertia, as a kick or blow from some small rapidly moving object, crushing of the intestine is more likely to take place; while if the force is diffuse, as in a slowly moving ponderous object of great inertia, as the passage of a carriage wheel, the bowel is more apt to be torn at one of its fixed points, or the mesentery injured." Whenever a patient has been kicked in the abdomen by a horse, or when a carriage wheel has passed over the abdomen, it is *quite* probable that grave intra-abdominal injury has occurred. Keenan and Chevasse have collected 61 cases of horse-kicks of the abdomen, in 59 of which intestinal rupture occurred.

A fall from a considerable height, the patient striking the ground upon his feet or buttocks, may be productive of hepatic fracture, or laceration of a hollow viscus. McCosh, and others, have reported instances in which a patient falling upon the abdomen across an iron bar sustained an injury of the mesentery which latter was followed by gangrene of the intestine. Greig Smith refers to two cases of duodenal rupture due to a blow upon the back. Senn mentions a case of intestinal rupture due to the patient falling striking the ground upon his right buttock. In Vaughan's case of diaphragmatic rupture, the blow was received just below the angle of the left scapula.

The expectedness of the blow as well as the general health of the individual at the time of accident are important factors in determining the effect of the blow. Concerning the expectedness of the blow, Sir Charles Bell, more than a century ago, said: "Contusions on the belly are often fatal, and sometimes suddenly so. A blow on the stomach, like the *coup de grâce*, will destroy life on the instant. A bruiser stands up to his antagonist, firmly braced, the muscles of the abdomen in action, and the viscera supported; he will stand severe blows; but when a drunken idiot is found fighting, he may be killed by a single blow. So, a man falling from a height, his stomach striking against a projecting part is found dead without apparent injury."

It needs no argument to convince us that the presence of an inguinal hernia, etc.; of a pyosalpinx, of a gastric or duodenal ulcer, of enlarged, friable spleen or liver, of a distended stomach or bladder, etc., greatly predispose to visceral rupture, hence, it is necessary to inquire concerning same in every instance.

The immediate effects of the blow may be quite misleading. It is well known that a patient may be able to walk many blocks without special discomfort, even though he has sustained a very grave intra-abdominal laceration. The severity of the initial shock is not a reliable criterion of the extent of visceral injury; continuous hemorrhage intensifies the initial shock. Concerning the initial shock Crile has said: "The more specialized and abundant the nerve supply to a part, the more will it contribute to the production of shock when injured."

In practically all cases of peritoneal soiling—save, perhaps, in post-operative hemorrhage—we expect to find pain, localized tenderness and muscular rigidity; more or less changed expression and increased pulse rate. In many instances the posture, the frequency and character of the respirations, the abdominal contour, and the clinical picture in general, speak volumes.

Abdominal pain is a valuable symptom. It may be paroxysmal or constant; it may appear immediately after the accident. In McCosh's case of mesenteric injury, pain did not appear until twenty-four or thirty-six hours after the accident, although symptoms of internal bleeding were present. It is a fact, that pain may not appear until several days after the accident. It seems worthy of mention, however, that the pain may be smothered with the hypodermic syringe. In intestinal rupture the pain is most frequently complained of in the umbilical region; in fracture of the spleen it is especially severe in the left hypochondrium; in lacerations of the kidney, ureter or bladder it is referred to the course of the ureter and to the genitals (the testicle is frequently retracted); in hepatic fracture the pain may be most severe in the right hypochondrium or it may shift to the epigastric or umbilical region; in some of the cases the pain is not distressing.

In the greater proportion of the cases of intestinal laceration the pain, which is often of a colicky character, is of increasing severity. Bryant states that if the pain is localized and persistent it becomes of import. Brewer says: "Deep-seated localized pain following an ab-

dominal contusion, especially if increased by pressure and accompanied by local or general rigidity, is one of the most constant symptoms of intra-abdominal injury."

Muscular rigidity is a sign of great diagnostic value. Makin considers rigidity and immobilization of the abdominal wall as almost constant signs of intestinal rupture. LeConte considers muscular rigidity and facial expression the two most valuable symptoms of intestinal laceration; he maintains that the rigidity characteristic of visceral rupture is progressive in its firmness, and when once well developed is of board-like hardness, and uninfluenced by palpation. We must distinguish between the rigidity due to superficial injury, and the rigidity which signifies an attempt on the part of Nature to protect an underlying injured tissue. Brewer looks upon muscular rigidity as the most reliable symptom of visceral injury.

Bottomly does not feel that tenderness is of any particular diagnostic value. Brewer says: "Of the symptoms present in the earliest stages of abdominal injury, pain, tenderness, and muscular rigidity are the most prominent, and are the most to be relied upon to establish the diagnosis. In absence of spontaneous pain, localized tenderness with muscular rigidity is strongly suggestive of visceral injury."

Fowler pins a great deal of faith in increased pulse rate. He feels confident that a gain of 10 to 15 beats in an hour is significant of visceral rupture. LeConte holds that a steadily rising pulse after reaction has taken place, is a bad sign. Experience shows that it often signifies a developing peritonitis.

Knaggs emphasizes the importance of vomiting; he asserts that vomiting appearing after the patient has apparently rallied from the immediate effects of the accident, would justify an operation.

In Buchanan's patient intestinal peristalsis was almost absent; Buchanan attaches considerable importance to diminished peristalsis in these cases. Auscultation of the abdomen is not infrequently of diagnostic value.

The significance of blood in the vomitus, in the urine, or in the rectum, is too well known to need comment.

It is thus obvious that in making a diagnosis of intra-abdominal laceration we must consider *every* factor; the history must always be complete and accurate, the clinical picture must be carefully and thoroughly considered, and the findings revealed by painstaking examina-

tion must be cautiously weighed and their true significance correctly established.

It may be emphasized that whenever the history shows that the patient has sustained a horse-kick upon the abdomen, or has fallen from a considerable height, or has been run over by a carriage, the wheel of which passed over the abdomen; and if the examination reveals deep-seated localized pain, localized tenderness and muscular rigidity, exploratory *laparotomy is demanded*. In fact, Hartmann holds that rigidity is an imperative indication for laparotomy, even though other signs are absent.

Only too often have we soothed the pain and trusted to good fortune; only too often have we failed to correctly translate the presented picture; and only too often has the delay cost the patient's life.

I can not help but feel sure that Erdmann pursues the correct course in these cases. He says: "In all contusions of the abdomen I make it a rule, if when seen, the patient has any abdominal rigidity or pain, with or without evidences of blood by vomitus, rectum, or bladder, that a "*waiting for further symptoms to develop policy*" is wrong, and proceed to do an exploration. Cases seen within the first hour or two very frequently are in such deep shock that some of these symptoms and signs may not be obtained. I then take the history of the injury into consideration and explore immediately if the injury has been due to a fall from a considerable height, or if the vehicle or body producing the blow was of fair weight. By adhering to this rule in a period of four weeks I have opened the abdomen successfully in seven cases."

Every surgeon of wide experience knows that the practitioner who waits for the appearance of confirmatory signs of visceral laceration will almost invariably wait in vain for a successful outcome.

Campbell bases his diagnosis mainly on severe initial pain and muscular rigidity. As previously stated, Brewer asserts that the association of deep-seated localized pain, especially if increased by pressure, and local or general rigidity, is almost pathognomonic of peritoneal irritation.

When we suspect fracture of a solid viscus we, of course, look for the clinical manifestations of internal bleeding; when we are led to believe that a hollow organ has been ruptured we know that the severity of the clinical picture will be regulated somewhat by the site and

size of the laceration as well as by the quantity and character of the escaped content. We remember that in mesenteric injuries pain may not appear until late; usually, however, we find symptoms of internal hemorrhage.

The fact that Curtis has collected 116 cases of intestinal rupture, all of which died unoperated, is of import. Concerning the prognosis Kernusson says: "A patient with an abdominal contusion has one chance out of three of dying without operation." Bottomley concurs in the contention that operation should be performed early in suspicious cases. He says: "The almost universal fatality of intra-abdominal lesions of traumatic origin is so well recognized that it seems as if there could hardly be any question as to the wisdom of opening the abdominal cavity."

In looking over the literature I find that Dr. Dalton of St. Louis performed the first successful operation for fracture of the liver. In passing I might add that the findings of Frank, Crile, and Ochsner indicate that the secret of success in controlling hepatic hemorrhage lies in securing distinct, clear-cut flaps and suturing in such a manner that the pressure is even.

There seems no reason why early operation should not save almost every case of intra-abdominal rupture subjected to celiotomy. The trouble lies in the lateness of the hour at which the case is brought to the surgical assistant.

E. A. B.

Closing Wounds in Abdominal Wall.

During the past few years through the experiences of Champiñiere, Mayo, Edebohls and others, the method of closing abdominal wounds has undergone radical changes with the result that few surgeons employ the old through-and-through silkworm gut, except where the condition of the patient necessitates a hurried closure of the wound. This condition has been brought about by a realization of the prime importance of not only layer by layer approximation, but also overlapping the separate fascial planus, thereby securing firmer union and preventing subsequent hernia. The general adoption of hurried sutures in closing abdominal wounds has been hindered by two factors:

1. The use of non-absorbable sutures such as silver wire places a source of irritation in the wound in which subsequent slight trauma

may cause a breaking down of the scar. Such an instance I observed some years ago, when I removed from a suppurating sinus a silver wire which had been placed in a laparotomy wound by an Eastern surgeon, some six or eight months before. Such sutures are not to my mind ideal, as they are foreign bodies, notwithstanding their sterility.

2. A consideration which has led not a few surgeons to avoid *absorbable*, buried sutures was the difficulty of obtaining reliable or properly prepared catgut.

This objection is now no longer tenable as recent improvements in the mode of preparation have placed on the market catgut that is both sterile and pliable. An excellent method of closure of the abdominal wall is described by Dr. C. P. Noble in *Annals of Surgery*, for March, which he describes as follows :

"It is now so generally accepted that the chief strength of the abdominal wall as a supporting structure depends upon the aponeuroses that we will not take time in demonstrating this proposition. It is equally accepted that the chief cause of post-operative ventral hernia is defective union of the aponeuroses, leading to separation of the edges of the aponeuroses and the development of hernia. The question which presented itself to my mind was whether an improvement could be made in securing aponeurotic union over that obtained by the methods in use in 1896. I had used the tier suture after the Edebohls technic with interrupted silkworm gut suture, and was familiar with his later technic involving the use of the continuous catgut suture. It was clear to me that the aponeurotic union secured by these methods consisted in a scar of about one line in thickness between the divided edges of the aponeuroses, provided accurate union throughout the length of the wound was secured. It seemed to me that a much stronger union could be obtained by substituting a surface to surface union for an edge union, therefore, the method was devised and after various changes is now carried out as follows for celiotomy wounds:

"The incision in the hypogastrium for operations on the female pelvic organs may be taken as the type. This incision is made by choice through the inner border of the right rectus muscle. In closing the wound the peritoneum is first closed with a continuous suture of fine cumol catgut. The fat is then dissected from the upper surface of the aponeurosis of the transverse muscles on the left side of the wound from one-third to one-half inch. The aponeurosis upon the right side of the wound is then separated for an equal distance from the rectus muscle. The muscles and fasciæ are then sutured by means of a medium weight chromicized catgut suture in the following manner: The suturing is begun at the lower angle of the wound upon the

left side. The suture is passed from above downward through the aponeurosis and rectus muscle. Then the separated bundles of the rectus muscle are united with a continuous suture until the upper angle of the wound is reached, when the suture is passed from below upward through the aponeurosis upon the left side of the wound. The suture is then passed from below upward through the aponeurosis upon the right side of the wound, and an additional suture is taken above this point to fix the suture and take the strain off that part which has brought the muscle in apposition. The aponeurosis is then closed from above downward by catching the aponeurosis from the left side of the wound after the manner of the Lembert intestinal suture, and then passing the needle from below upward through the aponeurosis upon the right side of the wound. When this suture is drawn taut, it slides the aponeurosis of the right side of the wound upon the aponeurosis on the left side of the wound. The process is repeated until the lower angle is reached, when the two ends of the suture are tied. In long wounds two or more mattress sutures are placed to take tension off the lines of continuous suture. The fat is closed with a continuous suture of fine cumol catgut. The skin is closed with fine cumol catgut suture by the intracuticular method. When median wounds are long, extending near or above the umbilicus, care is taken to unite the posterior aponeurotic sheath of the rectus muscle with the peritoneum."

M. G. G.

Ankylosis of the Spine.

The disease is variously known as spondylosis, arthritis deformans of the spine, Kümmel's disease, etc., and recent literature of the subject have been collected by Githens (*American Medicine*, February 3, 1906). About 200 cases have been reported. Trauma, acute articular rheumatism, prolonged gonorrhea, tuberculosis and syphilis have been found in the histories of the cases in varying percentages.

Pathologically, two well defined groups have been observed: In the first, there is ossification of the ligaments and even the disc causing true ankylosis; in the second form the stiffness is produced by osteophytes growing from the vertebræ. To quote:

"The course of the disease as gathered from the case histories is extremely variable. Formerly great stress was laid on the involvement of joints of the limbs and on the part of the spine first attacked, but other factors must also be taken into consideration, and especially the etiologic one. Ordinarily the disease begins with pain in some part of the back, and, perhaps, shooting pains in the corresponding nerves. The part steadily becomes stiffer, and as it does so the pains

diminish, ceasing when rigidity is complete. There may have been a long history of rheumatic trouble in the large joints, or such trouble may accompany or follow the spinal changes. In some cases the entire spine is affected at once during an acute febrile attack, and more frequently part at a time in a series of such attacks. More rarely the history shows a long period of nervous symptoms, especially motor, paralyzes, atrophies, contractures, perhaps associated with paresthesias and shooting pains. In one case trophic ulcers are reported. In other cases there is no pain and the deformity is the only symptom noticed by the patient.

"Considering each of these factors the cases may be divided into the following groups: 1, Senile and occupation kyphosis; 2, traumatic; 3, rheumatic; 4, osteoarthritis or arthritis deformans of the spine; 5, nervous or muscular."

Aspiration of the Tympanic Cavity After Paracentesis.

Fridenberg (New York *Medical Record*, March 3, 1906) in this article opens with an argument for early paracentesis in acute otitis, "not to open an abscess in the ear," but in most cases to prevent an abscess. Free drainage is sought and any means that will aid this is of value. It is to this end that the author advises the use of suction, immediately after cutting the drum. Formerly he used the Siegle otoscope but now the author has contrived an apparatus made of a glass bulb with a rubber tube attached, and suction may be made through this tube either by means of a piston syringe or the lips of the operator may be applied to the tube. While this latter method may seem repugnant the author says—"the tube is clean, and the sterile cotton in the neck of the glass bulb prevents anything but filtered air passing up into the rubber tube. The effects of this aspiration are very gratifying, there is less pain after the paracentesis, otitic pain is more promptly and lastingly relieved and the incision has less tendency to become closed in which event a second incision might be necessary. Drainage is freer." In this depletion of the mucus and the flushing of the middle ear with uncontaminated serum of admittedly antitoxic bactericidal efficiency I recognize two valuable factors, in addition to the mechanical one of evacuation. "A diagnostic value of this aspiration is also mentioned in the case of infants and young children; it will settle any doubt as to whether the drum has been freely opened or not." The author has kept no definite comparative records but he has gotten uniformly good results with this method. s. s.

YESTERDAY AND TODAY.

DEPARTMENT EDITORS.

Dr. E. A. Babler, Surgery.

Dr. Adrian Bleyer, Medicine.

Tic Douloureux.

Facial neuralgia is a very distressing affection. During the early part of the Eighteenth Century very little was known concerning the disease. Mr. Abernathy, in discussing the subject, said:

"It seems to me as truly a constitutional disorder as either gout or rheumatism. In many cases which have been examined no organic changes could be found; the complaint consisted in functional derangement and not in any structural changes. I am convinced that the treatment of tic douloureux should be constitutional treatment, and such as is calculated to allay the irritability of the nervous system."

Today, it is agreed that the etiology of trigeminal neuralgia is not always clear. The cause may be central or peripheral. It is very essential that the medical attendant ascertain whether the cause is seated peripherally or centrally. Krause says:

"It is to be looked for in the periphery if changes which are known to cause facial pain are found there. Among these are scars, foreign bodies and new formations. The surgeon may also decide upon a peripheral seat if the neuralgia has developed after a severe cold or after injury to certain parts of the face, and is mainly restricted to these parts. One must always remember that the nerve change, once started, progresses toward the center. According to the law of excentric phenomena, the cause is to be looked for higher up in proportion to the number of subdivisions of a branch that is diseased."

Wagner has told us that "we can most properly assume that a neuralgia is of cerebral origin if several branches only, and not the entire peripheral distribution, are the seat of the neuralgia, and if with this no peripheral cause can be ascertained, and if the presence of other symptoms of cerebral disease is afforded in the cranial nerves, the origin of which is not restricted to a small space, but is convergent from the different parts of the brain."

The treatment followed by Abernathy was quite simple. He advised his patients to lead a more quiet life, to indulge less freely in wines, etc. He recorded several cures.

Today, our first effort is to ascertain the cause. If this be due to reflex irritation we attempt to remove the latter and to build up the patient's general health; in anemic patients, tonics are administered. Morphin, cocain and other irrationally used drugs can not be too forcibly condemned; they afford relief during the early stages of the disease only, and produce a habit that is far more distressing and terrible than the affection for the relief of which they were given.

Phenacetin, chloral hydrate, acetanilid, etc., have been found of benefit. Osler states that nitroglycerin in large doses may be tried. I recall a case in my early practice in which local applications of chloral hydrate, menthol and chloroform, in conjunction with the internal administration of phenacetin, sodium bromid and caffen citrate afforded relief.

In some cases everything seems to be utterly ineffectual. Very recently the deep injections of alcohol, osmic acid, etc., have been much vaunted. Ostwalt has asserted that 90 per cent of the cases of tic douloureux coming under his care were cured by means of deep injections of alcohol. He injects 1 or 15 cc. of 80 per cent alcohol to which .01 gm. of cocain or stovain has been added, making one injection along the trunk of each of the branches affected, at the point where they emerge from the bone. Levy and Boudouin, and others have recorded great benefit with a similar technic.

Attempts have been made to resurrect the osmic acid injections advocated by Billroth and Neuber almost a quarter of a century ago. Concerning osmic acid injections, Eastman says:

"My experiments have shown no changes in the nerve tissues as a result of injections of osmic acid other than the disintegration of fat and oil globules in the perineural space and in the white matter of Schwann, such white matter of Schwann being simply fatty matter in a fluid state insulating and protecting the essential part of the nerve. The degenerations appearing in the nerve itself are only such as may be fairly attributed to nutritional changes and exposures, the indirect result of the selective action of osmic acid of destroying fat. There is no reason why this fat should not be restored and the nerve again become capable of transmitting sensation, that is, theoretically, the neuralgia may return after the injections of osmic acid."

During the past few years excellent results have been obtained by excision of the Gasserian ganglion. This form of treatment will be discussed later under "Surgical Digest."

E. A. B.

Fracture of the Ribs.

The reader of ancient surgical treatment often wonders why our forefathers resorted so frequently to bleeding. Just why a patient suffering with a fractured rib was subjected to venesection, I can not understand. That these latter patients were thus treated is evidenced by the following:

"R. J. was admitted to St. Thomas's Hospital, January 6, 1825, and upon inquiry stated that he had fallen from a height of about 18 feet and had received a blow on his head, and also one on his left side. He complained of a great deal of pain in his side. Upon examination it was found that he had fractured his fifth rib, about one inch anterior to its angle. He was bled and placed in bed. * * *

"Twelve days later the uneasiness and pain in the side, which was before very troublesome, had subsided."

At present, our German colleagues tell us that in severe cases rest in bed in a horizontal position for about fourteen days will be sufficient. In America, however, we treat these cases differently. We limit the excursions of the fragments by means of adhesive strips placed *around* the chest. The essential point in the technic is to completely encircle the chest. The plaster is three inches in width. It is very efficacious; the relief is almost instantaneous. If the plaster is placed on one side of the chest only it is absolutely worthless.

I recall a case of severe fracture of the ribs complicated with surgical emphysema involving almost the entire chest and extending up as high as the neck, seen during my service at the City Hospital, in which prompt application of adhesive plaster, practically immobilizing the upper two-thirds of the thorax, afforded prompt and efficient benefit. (Babler). During the first hour the patient may complain of increased discomfort but this soon subsides.

Cancer of the Penis.

The pain and discomfort attendant upon cancer of the penis are very distressing. It is lamentable that these sufferers wait so long before seeking surgical assistance, since the great secret of success in these cases lies in early, prompt and thorough excision. In the *Lancet*, January 29, 1825, I found the following:

"On Friday, Sir A. Cooper amputated the penis of L. W., aged 65 years, in Cornelius Ward. This man has been the subject of a cancer of the penis for many years past; he can not at all account for

its first appearance; he had not received any blow, neither had he ever had any bad attack of syphilis. It has not during this period given him any great degree of pain, although he has been obliged to be extremely cautious not to use too much exercise. His occupation in life has been that of a coachman in a gentleman's family. Finding, however, that he was becoming much out of health he was induced to apply for relief. Sir A. Cooper first took a piece of tape and tied it firmly around the penis, close to the symphysis pubis; after which he took a common scalpel and made an incision completely through the penis. Pressure with a dossel of lint, suppressed the hemorrhage."

Today, it is a recognized fact that cancer of the penis occurs more frequently than any other form of tumor of this organ. Küttner has described three main types:

1. The papillary cauliflower growths.
2. The carcinomatous ulcer.
3. The non-papillary cancer.

The cauliflower growth occurs quite frequently in the presence of phimosis, and develops on the glans or inner layer of the prepuce. In fact, some investigators contend that phimosis is one of the most important etiologic factors of the disease. The carcinomatous ulcer is usually apparent only as a small, hard ulcer on the glans or in the coronal sulcus, with overhanging edges; it is seldom accompanied by extensive metastases. The non papillary form is very malignant; it involves the glans and may reach the size of a closed hand. It is not commonly met with.

Very recently, Handly, in discussing cancer of the breast, stated that carcinoma extended along the lymph channels; it seems quite probable that the same is true in cancer of the penis. The inguinal glands are usually the first to be involved. In some instances the retroperitoneal glands will show primary invasion. The extent of the pathologic changes in the penis is no criterion of the severity of the metastatic deposits.

The present day treatment of carcinoma of the penis is just the same as the treatment of carcinoma in any other portion of the body—complete excision, combined with removal of all diseased glands, at the earliest possible moment.

Very recently, through the courtesy of my friend, Dr. Mudd, it was my pleasure to assist in the most radical operation for the treatment of cancer of the penis. Dr. Mudd dissected out all of the in-

guinal glands, excised the scrotum, testicles, and penis. The urethra was left long, split and attached to the skin. When the operation was completed the patient looked a great deal more like a woman than like a man. The results, in so far as the operation itself, were quite ideal. No recurrence as yet.

Early recognition of the disease, and prompt surgical intervention are the prime requisites for universal success. E. A. B.

White Swelling.

In looking through a faded, weather-beaten, and musty copy of Manning's publication which appeared in the latter part of the Seven-teenth Century, I found the following:

"The nature of this complaint appears to be less understood, and the cure of it also more difficult, than that of any other disorder to which the body is liable. The term '*white swelling*' has commonly been applied to such enlargements of the joints, as are not attended with external inflammation or discoloration of the teguments; the only symptoms which at first commonly take place, being a greater or less degree of swelling, with a deep-seated pain. In the progress of the disease, indeed, the surrounding parts are so much affected that the inflammation is at last communicated even to the skin, in which it is not uncommon to find abscesses and ulcerations around the joints that are so diseased."

Manning described two varieties; the rheumatic species and the scrofulous species. He believed that the cause of the rheumatic variety was all such strains as particularly affect the ligaments of the joints, so as to produce inflammation. The latter species were regarded as being originally an affection of the bones, the surrounding soft parts appearing to suffer in the progress of the complaint only from their connection and vicinity. The scrofulous species very seldom occur in consequence of any external accident; but generally begins without any sensible cause. He says:

"It is likewise observed, that this species of white swelling is generally either attended with other evident symptoms of scrofula subsisting at the time, or that the patient in an earlier period of life, has been subject to that disease; or that he is descended of scrofulous parents, and, therefore, probably has the seeds of the disease lurking in his constitution."

As to treatment, Manning held that, in the rheumatic species, great benefit was to be obtained from blood letting, cupping and scari-fying. Concerning the scrofulous variety he says:

"In the scrofulous species there is very little hope of a cure. If ever this can be effected, it must be by the long continued use of such medicines as are adapted to scrofulous constitutions. In such a case even amputation can hardly be expected to prove of lasting advantage; and if the operation be determined against, it then becomes necessary to have recour'se to palliative treatment. With this view, opiates in large doses, by moderating the pain and procuring rest to the patient, will, in general, be found the principal remedy."

Today, when we employ the term "white swelling," without qualification, we always mean tubercular disease of the knee. It has been found that "white swelling" is nothing less than tuberculosis of the joint. At the present time the profession are giving considerable attention to the highly praised "open-air treatment" in cases of joint tuberculosis. It is very essential that the entire twenty-four hours be spent in the open air. The atmosphere must offer a minimum of moisture and a maximum of sunshine; it has been found that elevation does not play an important part in the treatment. Pure country air is the essential feature. Burrell says:

"The prime essentials for the treatment of tuberculosis are physiologic rest, out-of door treatment, and ample nutrition."

In many instances the patients gain flesh rapidly; they soon become cheerful and there is a marked increase in hemoglobin. Halsted, Bradford, Wilson, Galloway, and others, are ardent supporters of the open air treatment of bone and joint tuberculosis. It is a fact, however, that the time required to bring about a successful issue is about the same as that necessary when other measures are resorted to.

When the disease has reached the operative stage we very rarely amputate. A few years ago Mosetig presented an iodoform bone plugging material which has practically revolutionized our operative results. By employing the bone plug after excision of the necrosed articular surface and surrounding diseased tissue, we are enabled to secure a cure and good joint function. I (Babler) have seen excellent results follow the employment of Mosetig's preparation.

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EDITORIAL COMMENT.

Diet in Diarrhea of Infants.

We forget sometimes to give due credit to the old masters; especially we have reference at present to the use of cereal decoctions in the diarrhea of infants. Charles West (1866) distinctly taught that the milk must be discontinued for a time in acute diarrhea and barley water substituted. Under the teaching of Henschel a more liberal, even milk diet was allowed. Meigs (1880) used milk and diluted milk extensively in the gastroenteric infections of infancy. In this country it was Kerley who generally taught the profession to abandon milk for a few days in these diseases. That there is practically always an amelioration of the symptoms can not be doubted, but we wish again to protest against the continued use of the cereal decoctions in ileocolitis. Whenever the contents of the bowel have lost their toxic property and the infection is limited to the mucous membrane of the intestine, something more than barley water is needed to keep the patient alive until immunity is established. Monti, in his recent work has done a service in protesting against the prolonged starvation often employed.

Cholera Infantum.

What has become of that dreadful disease, cholera infantum? Thirty years ago all writers on pediatrics discussed this terrible dis

ease. According to Everson (*American Journal Medical Sciences*, 1827) in twenty years over 3500 children died of cholera in Philadelphia alone. J. Lewis Smith, twenty years ago, reported quite a number of cases. Now, however, few cases are reported.

In an extensive practice among infants we have seen only three cases in seven years in St. Louis. Perhaps, after all, this speaks very loud for the improvements in the sanitary measures around the infant. But dysentery is as frequent as ever and almost as fatal.

Will some one ascertain where the Shiga and Flexner bacillus originates? It certainly is not always the milk. What is its source and how is it conveyed?

Teleology.

We have forgotten the name of the theorist who suggested that the peculiarity in the hereditary transmission of hemophilia is explicable on the grounds of natural selection. If the disease occurred generally in the female it would destroy the human family, since the hemorrhage of menstruation and parturition would be fatal. Hence, women begotten by a hemophilic father are not themselves bleeders but transmit the disease to their children. But who has a particular interest in perpetuating the disorder? A similar transmission occurs in Daltonism (color-blindness) and hemeralopia (night-blindness) and here the arguments of our teleologist are not sustained. The purpose of the phenomena are often obscure, when viewed teleologically, although the laws governing their source and growth may be clearly outlined. Let us not despair, however, even bleeders may have some cosmic reason for existing in spite of their evident infirmity.

The Parablast.

Questions of abnormal growth are usually referred to the embryologist and we must acknowledge our increasing indebtedness. The noted histologist His has offered an interesting explanation of hemophilia based on embryological findings. His declared that the blood and lymph apparatus with the connective tissue has a parablasic origin, that it arises from the connective tissue cell, or parablast. According to His, the parablast has a maternal origin, but of course, this

is purely an hypothesis. It naturally follows that the female germ carries the disturbing element, although it may not reveal itself in all cases. The parablást, at any rate, seems to be much more readily influenced by the female pronucleus than by the male pronucleus (sperm cell). Whether or not this interesting speculation has a practical bearing on other diseases in which the connective tissue is implicated remains for future examination to determine.

Physicians and Success.

Dr. Mayo, in his Annual Address, emphasized several timely topics. "One of the demoralizing tendencies of this commercial age is the money standard of success." No doubt, this is the secret of the many evils that creep into our professional life. The physician above all others should be well paid, but he should value professional honor above dollars. It is pitiable, however, to find a practitioner who neglects his business sense and allows his patients to deprive him of his just reward. Still more sorrowful is the spectacle of the "fool and his money parted" in yielding to the wiles of uncertain speculations. Then there are others who find pleasure in expensive fads and useless bric-a-brac. But probably this gives the worried minds a recreation. It would be better that he took interest in natural sciences—botany, zoology or geology.

Educating the Layman.

Dr. Mayo referred to another significant condition, namely, the ignorance of the layman in regard to the fundamental truths of modern medicine. His view is that of the profession a quarter of a century ago. The young mother is taught by her mother who was taught by the family physician twenty five years ago. This should not be tolerated. We should not permit our intelligent patients to receive their education from the grand mothers and patent medicine advertisements.

What is scientific medicine? What should be required from the physician? Other just as important questions should be answered explicitly in our daily intercourse with the people.

Patients and Environment.

The influence of environment on the patient needs no special plea in order to receive proper consideration, and yet what few rules we have to guide us at the bedside. Dr. James, of New York, has recently suggested different environments for patients, those suffering from different diseases be placed, not altogether in one ward, but each under the proper surroundings. Let us rather study environment in place of chemicals for a time; no doubt, some valuable therapeutic hints may ensue. The physiological effect of company has not properly been investigated. Psychical agents are still regarded with suspicion and their effect on disease uncertain. Meanwhile, the Christian Scientists report another case of incurable cancer cured and another hopeless tuberculous patient made strong, and another church established in Chili.

The Hopeful Attitude.

Is it not encouraging when physicians in these times take such a hopeful view of the outcome even in the most serious diseases? Let us report the cure of serious diseases and talk about the health of consumptives. How stimulating it is to converse with the physician who engages in strenuous efforts with diseases usually fatal. When in doubt concerning the outcome, give hope in recovery the benefit. The Philistine receives the bald truth with a chilliness. "A mixture of a lie doth ever add pleasure" in the sick room as well as in the drawing-room. Back of all our pessimism we must acknowledge that our clearest diagnosis may be wrong, and even the most incurable diseases sometimes gets well.

The Sphinx.

Quoting Bacon recalls his fable of the Sphinx ("Wisdom of the Ancients") and his interesting explanation. Medical science still remains the sphynx who proposes riddles to the inquisitive wanderer, but not many are torn to pieces now; rather are they stunned and rendered helpless. When bacteriology revealed the causes of the infectious diseases, truly it may be said that an Œdipus has been found and many were tempted to offer him the crown.

Now the problems of immunity have given us so many riddles that most practitioners are hopelessly entangled when they attempt to solve even the elementary parts of recent theories. Why should one dose of horse serum be perfectly harmless to a guinea pig and a second dose in two weeks injected hypodermatically cause immediate death? What is the purpose of such a phenomenon?

Another Infectious Disease.

So many diseases of the nervous system are now classed under the heading of infectious diseases that no surprise will meet the recent announcement that the parasyphilitic diseases are not caused by syphilis, or that the latter disease has only a remote and not an essential etiologic relation.

Evidence has become almost conclusive that dementia paralytica is the result of a bacterial toxin. A diphtheroid bacillus has been isolated from the blood and mucous membrane of such patients, which in many ways has already fulfilled Koch's laws. The name of the new organism is bacillus paralyticus, and thus a new infectious disease with many peculiarities of its own is launched on the sea of investigation and speculation.

In the light of our present conceptions this explanation is far more plausible than the obscure phrase—metasyphilis, in which our ignorance was hidden in a name. Syphilis, then, in paresis and tabes acts only as a predisposing cause in that it breaks down the natural defense of the body against a bacillus which is usually a harmless saprophyte. We shall be disappointed if this line of research does not yield some practical results for therapeutics in the near future.

The Gold-Headed Cane.

The Johns Hopkins Historical Club has the knack of digging up interesting relics—even the Gold-Headed Cane, which is a treasure of the College of Physicians in London. The Gold-Headed Cane made its appearance in medical circles about the year 1689 and “for one hundred and thirty-six years was carried by a leading London practitioner, during this time passing through the hands of Radcliffe, Mead, Askew, the two Pitcairns and Baillie.”

A book entitled "The Gold-Headed Cane," written by Dr. Wm. MacMichael (1827), represents the cane as giving an account of the lives of the physicians who carried it, and attracted much attention in medical circles.

It is a singular fact, not realized by the young physicians today, that until recently the physician's cane was an essential part of his insignia. Up to very recent years, especially in England, no doctor of medicine "presumed to pay a professional visit, or even to be seen in public, without this mystic wand."

Jeafferson succinctly described the physician's cane and its essential characteristics. "A physician's wand ought to have a knob at the top; this knob in olden times was hollow, and contained a vinaigrette, which the man of science always held to his nose when he approached a sick person, so that its fumes might protect him from the noxious exhalations of his patients."

The stick itself representing the conjuring age, and the priest's wand, descended from Hermes and Mercury. It, no doubt, served as a therapeutic agent at times, for fustigation was a valuable remedy for many ills. Alas! the age of the cane and wig has passed, and strange to say nothing has replaced them. We are too busy now to take up sentimental fads.

The American Medical Association.

Now that the House of Delegates of the American Medical Association has overwhelmingly approved the present policy of the *Journal of the American Medical Association*, the work of its editor and the work of the organizers, it is to be hoped that some of the unwarranted attacks on Dr. Simmons will cease. The so called independent press ought to be able to find other evils in the profession on which to spend their exuberant energies than the splendid progress in medical organization in the United States.

Even the Council of Pharmacy should receive constant encouragement, for the work of this body can only result in permanent good and will do little harm even to the honest manufacturing chemist who fears that a little light will hurt his business.

LEADING ARTICLES.

The Etiology of Appendicitis.

Almost a century and a half have elapsed since the worthy Mestiviér¹ recorded his historic first case of disease of the appendix. The patient was a man, aged 45 years, who presented the clinical manifestations of abscess in the right inguinal region. Mestiviér attempted to evacuate the pus by incision. At the autopsy a large incrustated and eroded pin was found in the appendix. It is really surprising, however, to find that during the half century immediately following Mestiviér's report there were but three additional cases of disease of the appendix recorded in medical literature. In fact, Howard Kelly has found that up to 1808 the history of the vermiform appendix belongs exclusively to France. Previous to the classical memoir of Louyer-Villermay,² which appeared in 1824, it was the general consensus of opinion that the pathological changes occurring in the appendix were always secondary to similar changes in other parts of the intestine. It may be stated, therefore, that Louyer-Villermay was the first investigator to appreciate the fact that the appendix, as a diseased organ, could possess an individual history. The memoir of the latter attracted the attention of Mélier,³ who was quick to appreciate the correctness and significance of Louyer-Villermay's contention. Mélier went a step further and called attention to the distinguishing features between inflammation of the appendix and inflammatory conditions affecting other areas of the intestine with great acuteness.

Without question, the first case of disease of the appendix to be recorded in American medical literature was tabulated by Wolcott Richards,⁴ of Cincinnati, whose patient died without a correct diagnosis having been made. At the autopsy a perforated appendix was found. Richard's case was reported in 1837—more than three-quarters of a century after Mestiviér's historic case.

It must be admitted that the thorough and painstaking work of Reginald Fitz,⁵ of Boston, has done more to bring about a correct and universal knowledge concerning the diseases of the appendix than that of any other individual. The name "appendicitis" was coined by Fitz. His first memoir upon the subject appeared in 1886, and had

a transforming effect both abroad and at home. Every subsequent writer pays him homage. The name of Fitz will ever be closely associated with the history of disease of the appendix.

Just as soon as the pathology had been made clear, and the meaning of the clinical manifestations correctly appreciated, it was then possible to scientifically investigate the etiology of the disease. During the past ten years the subject has been very thoroughly and carefully investigated throughout the continent. In discussing the etiology, the following classification will be followed, viz :

ETIOLOGY.

1. Predisposing causes—
 - a.* Mechanical conditions.
 - b.* Age.
 - c.* Sex.
 - d.* Occupation.
 - e.* Nationality.
 - f.* Hereditary influences.
2. Exciting causes—
 - a.* Digestive disorders.
 - b.* Traumæ.
 - c.* Concretions and foreign bodies.
 - d.* Menstruation.
 - e.* Intestinal parasites.
3. Essential causes—
 - a.* Microbic infection.
 - b.* Other conditions.

PREDISPOSING CAUSES.

Some time ago Edebohls asserted that floating kidney predisposed to appendicitis; he believed that the kidney frequently caused a disturbance of the circulation, owing to a compression of the superior mesenteric vessels between the head of the pancreas and the spines of the vertebræ. Carl Beck, however, contended that the kidney acted as a direct exciting cause by pressure upon the appendix itself. Douglas has joined the ranks of both Price and Edebohls. Howard Kelly⁶ could find but 4 cases of appendicitis in the 104 cases of floating kidney treated surgically at the Johns Hopkins Hospital. He has stated that the normal anatomic and physiologic conditions of the appendix

are among the most important predisposing causes of appendicitis; he regards the mechanical conditions to be such as favor the stagnation of ingesta and an increase in the virulence of the contained micro-organism, while the presence of so many follicles affords a convenient portal of entry for bacteria. Bottomoley⁷ contends that the abundance of lymphoid tissue tends to destroy bacteria; when, however, the protective quantities are overpowered by the virulency of the infection, then the lymphoid tissue serves as an excellent culture media for the further activity of the bacteria.

The position of the appendix, the diameter of the lumen and the size of the cecoappendiceal opening undoubtedly play an important part in the etiology. Bland Sutton and others have called attention to the similarity of the lymphoid tissue in the appendix to the tonsil, while Roux⁸ remarks that the *proccessional de l'appendicite* finds in the adenoid tissue and in the residual cicatrices, parietal or periappendical, all the elements necessary to contract a new appendicitis on the occurrence of any physiologic hyperemia, the result of indigestion, or of cold or, perhaps, accompanying menstruation. Howard Kelly is acquainted with several instances in which an inflammatory process was apparently promoted by the attachment of the appendix to the site of previous operation.

Age.—A careful review of the literature tends to favor the contention that appendicitis occurs most frequently between the tenth and thirtieth years. It is a disease of early life, although quite a few instances have been noted in which the patient was more than 70 years of age. In 78 per cent of the cases of acute appendicitis operated upon at the Johns Hopkins Hospital the patient was under 30 years of age, while in 44 per cent of the chronic cases the patient was in the third decade and 23 per cent in the fourth, while only 16 per cent were under 20 years of age (H. Kelly). Wm. Allbutt⁹ has stated that the lesion occurs most frequently between the tenth and twentieth years.

Sex.—Without question males are more frequently affected than are females. In Fitz's series, 80 per cent were males; in the 224 cases collected by Hawkins,¹⁰ 161 were males. Murphy has found that there is no such great disparity in the sexes as some have intimated. In reviewing the cases in the Surgical Department of the Johns Hopkins Hospital, Howard Kelly found that the percentage in acute appendi-

citis was as 60 in the male to 40 in the female. He adds that if the cases of acute and chronic appendicitis which were associated with gynecological affections are added then, out of a total of over 900 cases of appendical disease admitted to the Hospital, the number occurring in women is slightly greater than in men.

Byron Robinson has advanced the theory that the relation of the appendix to the psoas muscle may explain the greater frequency of appendicitis in males. It is just here that I would like to call attention to *occupation* as a predisposing cause. Perhaps occupation plays a more important predisposing cause than hitherto acknowledged. Persons who stand upon their feet the greater part of the day and who eat hastily and at unseasonable hours, as well as those who wash windows and do a great deal of bending, seem to be frequent victims of the disease. Work that requires more or less sudden and constant straining of the abdominal muscles may be a predisposing cause. I do not pin any faith in the statement that the blood supply accounts for the apparent disparity between the sexes.

Nationality.—It must be admitted that appendicitis is less frequently observed in the negro than in the white race. Just as in typhoid perforation the negro race seems to be comparatively exempt from the affection. Howard Kelly has made extensive investigations concerning the frequency of appendicitis in the negro race. He believes that the explanation lies in the fact that the negro's diet is simple, that they take a great deal of outdoor exercise, and that they are relatively free from digestive disturbances. The statistics of the Johns Hopkins Hospital show that while about one fourth as many negroes as whites are admitted, still there are only about one twelfth as many of the former operated upon for appendicitis.

Hereditary Influences.—Some writers characterize appendicitis as a family disease. It is true that in some instances several members of the same family are afflicted with the disease. Personally, I can not help but believe that the diet, the surroundings, the habits and the mode of living, tend to explain this condition. Howard Kelly, however, believes that a family predisposition is explicable upon the ground of anatomic peculiarities and constitutional predispositions. (Personally, I do not believe that Kelly's hypothesis explains all of these cases by any means).

EXCITING CAUSES

It is the general consensus of opinion that the digestive disorders play a most important part in determining an acute attack of appendicitis. The hasty eating and improper mastication of partially cooked foodstuffs result in disorders of the stomach, intestines, etc. It is not infrequent to find persons partaking freely of meat even though they are unable to properly masticate it. Frederick Treves¹¹ has stated that the most important factor in the production of appendicitis was the presence of undigested food in the cecum, this being liable to decompose and so set up catarrh. Osler¹² has been impressed with the number of cases of appendicitis in boys in which there had been a history of gorging with peanuts. There may be either constipation or diarrhea preceding an attack of appendicitis. In, perhaps, half of the cases the bowels will be regular. Constipation is more frequently noted than diarrhea.

Menstruation.—The intimate relation existing between the menstrual periods and appendicitis has been frequently noted by Heward Kelly. He believes that the probable explanation lies in the fact that the congestion of the whole splanchnic area which accompanies the lowered blood pressure of the peripheral circulation during menstruation creates a favorable soil for the activities of the micro organisms contained in the appendix.

Traumæ.—During the past few years Copland's¹³ suggestion that trauma was a direct factor in the causation of quite a few cases of appendicitis, has come to be appreciated by many observers. Howard Kelly believes that the appendix, owing to its being exposed on the hard iliac pan and protected only by the soft abdominal wall, is peculiarly liable to injury from sudden blows, prolonged pressure, etc.

The literature shows cases in which an attack of appendicitis followed a long, hard bicycle ride, a jump from a street car, lifting of heavy objects, etc. A. O. J. Kelly deserves credit for his excellent writings upon the subject.

Concretions and Foreign Bodies.—It is a present day fact that many of the "seeds" described by the early writers were nothing more than fecal concretions. In Murphy's experience foreign bodies are present in less than 2 per cent of the cases; in 38 per cent of his cases fecal concretions were observed. He believes that the erosion of the appendical mucosa by these foreign bodies produces an atrium

for the admission of infective flora into the tissues and precipitates, under favorable conditions, the acute attack. A O. J. Kelly¹⁴ has examined over 500 specimens and has found a foreign body present in but a single instance. In 1000 cases examined at the Johns Hopkins Hospital,¹⁵ a foreign body was present in but 4 cases. It must be admitted that foreign bodies do not play the important rôle in appendicitis as was formerly contended. It is almost impossible for cherry stones, grape seeds or orange seeds to enter the lumen of the appendix save in those instances in which the fetal type is preserved. It is not uncommon to find that the foreign body is a pin. In a few instances a bullet, a small shot or a nail has been found in the appendix. H. G. Mudd found a nail two inches in length in one of his cases. The frequent association of abscess of the liver with the presence of pain in the appendix must not be forgotten. Gallstones are very seldom or never found in the appendix.

Intestinal Parasites.—During the past few years considerable attention has been accorded to the relation existing between intestinal parasites and appendicitis. Erdman records 29 cases of acute appendicitis in children, in 4 of which he found from six to twenty five pinworms in the appendix. Von Moty¹⁶ believes that the lumbrici seem to be more frequently associated with gangrenous appendicitis, while the oxyuris and trichocephalus lead to chronic inflammatory processes.

ESSENTIAL CAUSES.

It is the universal opinion that the immediate or essential cause of appendicitis is always microbic infection. It must be admitted that all attacks of appendicitis are due to the action of bacteria, and that the severity of the disease depends upon the virulency of the infecting microbe and upon the resisting power of the individual. Sherren¹⁷ has recently stated that appendicitis was due to the action of bacteria upon a vulnerable appendix; the latter was brought about in most instances by interference with the blood supply, the result of increased tension within it, and that this increased tension was due to obliteration of its opening into the cecum, due in some instances to distention of the cecum, in others, to swelling of the mucous membrane, the result of inflammation. He contends that in both of these groups the immediate cause lies in the cecum.

The bacteria found in the inflammatory conditions of the appendix are present in the normal intestinal tract, save in those rare in-

stances in which appendicitis develops during the course of an infectious disease—some authors contend that inflammation of the appendix is then set up by the organisms causing the original infection.

Abbé¹⁸ has seen some cases of appendicitis occasioned by influenza, in which the affection seemed concentrated in the appendix, producing acute inflammation, with follicular ulcers and some hemorrhage.—(Kelly).

Ford¹⁹ calls attention to the findings in 1000 cases examined at the Johns Hopkins Hospital. He found that the bacillus coli communis was present in 86 per cent, while the streptococcus was found in but 16 per cent. The bacillus lactis aerogenes was observed in 10 per cent and members of the hog cholera group in 10 per cent. Without doubt, the bacillus coli communis is the most common secondary invader in all cases of appendicitis and peritonitis caused by the streptococcus or by other micro organisms. It has been found that when the bacillus coli communis can alone be found, the type of the disease is much milder than in those instances in which streptococci are present.

Haig²⁰ has suggested that the uric acid diathesis might be a cause of appendicitis, since the salicylates acted favorably on an attack. This suggestion remains an unsettled question. It is true that there may be some relation between appendicitis and rheumatic fever. Tubercular ulcers have been found in the appendix. During an attack of typhoid fever, the appendix may become acutely inflamed. It is very rare, however, to find actinomycosis of the appendix.

In reviewing our findings and summing up our results, we may conclude:

1. That the most important cause of appendicitis is disturbances of digestion.
2. That the immediate cause of appendicitis is invariably due to microbic infection
3. That one attack of appendicitis predisposes to further attacks.
4. That acute or chronic enterocolitis may, at times, be an exciting cause.
5. That enteroliths and foreign bodies usually play a passive rôle, but that they tend to cause perforation and gangrene when the appendix becomes actually inflamed.

6. That general infection may frequently be the exciting cause of appendicitis.

In the September number of this Journal the Symptomatology will be discussed.

BIBLIOGRAPHY.

¹Mestivier.—Quoted by Kelly, Edebohl and others.

²Lonyer-Villermay.—Ibid.

³Mélier.—Ibid.

⁴Richards.—Western Jour. Med. and Phys. Sci., Vol. 2, 1837.

⁵Fitz.—Am. Jour. Med. Sci., Vol. 92, 1886.

⁶Kelly.—The Appendix, 1905. (Kelly and Hurden).

⁷Bottomoley.—Practitioner, June 1905.

⁸Roux.—Quoted by Kelly.

⁹Allbut.—System Medicine, Vol. 3, p. 876.

¹⁰Hawkins.—Quoted by Osler.

¹¹Treves.—Allbutt's System Medicine, Vol. 3, pp. 884-6.

¹²Osler.—Prac. Med., 1903.

¹³Copland.—Quoted by Kelly and Hurden.

¹⁴Kelly.—Deaver's Disease of the Appendix, 3d edition.

¹⁵Kelly and Hurden.—Diseases of the Appendix

¹⁶Von Moty.—Lancet, Vol. 2, 1902.

¹⁷Sherren.—Practitioner, July, 1905.

¹⁸Abbé.—Quoted by Kelly and Hurden.

¹⁹Ford.—The Appendix 1905. (Kelley and Hurden).

²⁰Haig.—Quoted by Bottomoley.

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Observations Upon the Phagocytic Power of the Blood of Supposedly Normal Human Beings.

Since Wright and Douglas published their results on the cause of phagocytosis as they viewed the phenomenon, many observers both abroad and in America have given the subject much thought. Metchnikof, the Director of the Pasteur Institute at Paris, is the founder and the chief exponent of the theory of phagocytosis as the means of bodily protection against invading bacteria. Opposed to this view is Ehrlich of Frankfurt, who is the recognized leader of the humoral theory and known probably best in connection with the so called side chain theory.

The supporters of the phagocytic theory recently seem to have gained ground by the discovery by Wright and Douglas of a something in the blood that so acted on bacteria that they were paralyzed, so to speak, and could then be taken up by the leukocytes. This principle of the blood plasma they called "opsonin." There seems

to be a number of different opsonins. Johashien found that human serum, for example, contains different opsonins for tubercle bacillus and staphylococcus.

As a general rule the opsonins are destroyed by heat, some, however, are more stable than others. Kept at 98.6°F. for a time they rapidly deteriorate.

Wright and Douglas have noted a marked increase in the opsonic power of the blood of patients suffering from chronic staphylococcus infections of the skin (acne, furunculosis, sycosis) when broth cultures of cocci were injected. They also found that after the injection of minute doses of tuberculin the opsonic index of the blood was considerably increased toward the tubercle bacillus.

In view of the importance of the subject and practical bearing that the actual increasing of the opsonic index of the blood would have in clinical medicine many investigators have attempted to devise a simple and accurate clinical method. Before this is possible it seems highly important to find a normal index.

McFarland and L'Engle (*Medicine*, April, 1906, page 247) have recently made some observations on the phagocytic power of the blood of supposedly normal human beings and they seem to have simplified the technic considerably. They use a pipette with a caliber of 1 mm. pointed at one end where it is to come in contact with the drop. This is calibrated by means of a column of mercury into two equal divisions. To prevent coagulation of the blood a 1 per cent solution of sodium citrate in an 0.85 per cent solution of sodium chlorid is used. The blood is diluted half with this solution, blown out into a dish and mixed well. As a standard bacterial suspension they used various per cent solutions of barium chlorid mixed with 1 per cent sulphuric acid. These per cent solutions were placed in tubes sealed at one end and placed in a frame so that a slit allowed light to come through. They found that the tube containing 5 per cent of the barium chlorid corresponds to the most useful bacterial suspension. To mix the citrated blood and bacteria, tubing drawn out to capillary fineness is used. Equal parts of the two fluids are mixed thoroughly, the ends of the tube sealed and placed in the thermostat at 98.6°F. for exactly thirty minutes. This is important as marked variations occur with a few minutes variation in time. A drop is placed on a slide stained with a modification of Wright's stain

and the bacteria counted in the leukocytes, taking the first twenty seen and averaging the count.

By their method they studied the bloods of twenty-four supposedly healthy individuals and found no normal standard of phagocytic power. They conclude that there is no uniformity in the phagocytic indices of the bloods of supposedly healthy individuals. The phagocytic index of the same individual may be constant, or it may vary upon different days, according to the health of the individual.

An exceptionally low phagocytic count usually indicates a present or past disposition to suppuration.

The wide variations from the phagocytic index of supposedly healthy individuals seem to indicate that for staphylococci at least there must be equally wide variations in the "opsonic index." Such variations in the opsonic index suggest the impossibility of establishing any other standard of comparison than the blood of the patient himself.

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The Serum Disease.

In a recent number of the *COURIER* we referred to the work Von Pirquet and Schick who published a valuable work on this subject. A summary of the phenomenon of this disease is necessary to properly introduce what follows.

Following hypodermatic injection of horse serum *e.g.*, in the use of diphtheria antitoxin, tetanus antitoxin, antidyenteric serum, anti-streptococcic serum, antipneumococcic serum, etc., in a child, it was observed that certain symptoms arose in about 50 per cent of the cases. The symptoms were noticed about a week or ten days after the injection and consisted in an urticaria, erythema multiform, edema, joint pains and in women, dysmenorrhea. These symptoms varied in different individuals, yet the uniformity of the phenomena made the disorder easily recognizable.

Another severe untoward effect was the occurrence of death within a few minutes after the injection. True this sad accident is comparatively rare, but the explanation that it was in all cases due to a status lymphaticus was certainly gratuitous.

A most valuable study of these effects has been made by M. J.

Rosenau and J. F. Anderson ("Bulletin No 29, Public Health and Marine Hospital Service") in a monograph entitled, "A Study of the Cause of Sudden Death Following the Injection of Horse Serum." The experiments were made on guinea pigs.

The following are the summary conclusions of this important work:

"Normal horse serum, when injected into the peritoneal cavity of a normal guinea pig, produces no symptoms. When injected subcutaneously there may result at most a slight local reaction consisting of swelling and edema, which gradually disappears.

Antitoxic horse serum is equally harmless for normal guinea pigs.

Horse serum is, however, poisonous to a guinea pig which has previously been injected with horse serum. The "period of incubation" or time necessary to elapse between the first and second injection is about ten days. Under these circumstances, horse serum is poisonous whether injected subcutaneously or into the peritoneal cavity.

The first injection of horse serum renders the guinea pig susceptible.

The symptoms caused by the injection of horse serum into a susceptible guinea pig are respiratory embarrassment, paralysis, and convulsions, followed by death. The symptoms come on usually within ten minutes after the injection, and when death results it usually occurs within one hour, frequently in less than thirty minutes, and some times within a few minutes.

The poisonous principle in horse serum appears to act upon the respiratory centers. The heart continues to beat long after respiration ceases.

The toxic action of horse serum bears no relation to diphtheria. The poison is not *toxone*. Guinea pigs can not be rendered susceptible by previous infections with the *B. diphtheriæ* or previous injections with diphtheria toxin.

It seems from our work, however, that guinea pigs first injected with a mixture of diphtheria toxin plus horse serum are more sensitive to subsequent injections of horse serum than are guinea pigs sensitized with a first injection of horse serum alone.

Diphtheria antitoxin plays no part in this poisonous action and in itself is harmless.

As soon as we realized that the toxic principle in horse serum exerts action in quantities so minute as to place it almost in the category of the ferments and, further, when we concluded from our work that this toxic principle is doubtless one of those highly organized and complex proteid substances belonging to the "haptin group" in the

sense used by Ehrlich, we recognized how futile it would be with present methods to attempt to isolate this substance. Nevertheless we devoted much time and study to the relation of this toxic principle to various chemical, physical, and electrical influences. The practical importance of eliminating or neutralizing this toxic principle in horse serum is at once evident.

It is probable that when the strange proteid is introduced into the guinea pig it causes a reaction resulting in a production of "antibodies," so that when a second injection of horse serum is given there is probably either a union or a reaction between the antibodies and a substance in the horse serum which produces the poisonous effect.

This poisonous principle is quantitatively specific; that is, guinea pigs treated with horse serum are rendered somewhat susceptible to the subsequent injection of the serum of another animal. Guinea pigs treated with the serum of another animal are slightly sensitive to the toxic action of horse serum.

Guinea pigs treated with the serums of various animals and subsequently injected, are much more susceptible to homologous serums than to heterologous serums.

This poisonous action has no relation to hemolysis. Our work proves that blood serum may contain an acute poison entirely independent of any hemolytic action. Normal horse serum has no lytic power upon the red corpuscles of the normal guinea pig.

This poisonous action has no relation to the specific albuminous precipitins.

The poisonous principle in horse serum is not affected by a temperature of 60°C. for six hours, but it is destroyed at 100°C. for fifteen minutes.

The poisonous principle is filterable through porcelain, is not injured by drying, and can not be separated by precipitation with ammonium sulphate and subsequent dialysis.

The following chemical substances do not oxidize, neutralize, or precipitate the poisonous principle in horse serum: Butyric acid, permanganate of potash, citrate of soda, alcohol, succinic peroxid acid (alphozone), hydrogen dioxide, and ammonium sulphate. The presence of chloroform or trikresol (0.4 per cent) does not interfere with this poisonous action.

Serums 8 years old are as toxic as those freshly separated.

Exposure to x-rays does not affect the poisonous action of horse serum.

It requires about 10 days after the first injection of horse serum for a guinea pig to show susceptibility to a second injection. A guinea pig remains susceptible a very long time, at least 160 days.

As small a quantity as $\frac{1}{1000000}$ cc. of horse serum was sufficient in one instance to render a guinea pig susceptible. Quantities varying

from $\frac{1}{150}$ to $\frac{1}{1000}$ cc. almost invariably render guinea pigs highly susceptible when given in the toxin-antitoxin mixture.

One-tenth cc. of horse serum injected into the peritoneal cavity of a susceptible guinea pig is sufficient to cause death. The same quantity inoculated subcutaneously may cause serious symptoms.

There is some evidence to show that the sensitizing substance in horse serum is the same as the poisonous substance. The sensitizing substance is not affected by precipitation with ammonium sulphate and dialysis.

Guinea pigs may be sensitized with horse serum that has been dried and dissolved.

The sensitizing substance is not affected by a temperature of 60°C . for six hours.

It is probable that small quantities of horse serum render a guinea pig more susceptible than do large quantities. If this be true, it is due, perhaps, to the fact that large quantities, owing to slow absorption or prolonged reaction, partly immunize the guinea pig at the same time that it is being sensitized.

The sensitizing substance apparently is not free in the blood serum of guinea pigs.

An active immunity against this toxic principle may readily be established by repeated injections of horse serum, at short intervals, into a guinea pig. Although guinea pigs may be immunized actively in this manner we have not yet succeeded in transferring this immunity in the blood serum or body juices to another guinea pig. It therefore appears that the immune bodies, if such exist against the toxic action of horse serum, are not free in the blood and body juices contrary to the case in diphtheria.

Guinea pigs may be sensitized to the toxic action of horse serum by feeding them with horse serum or horse meat.

The fact that guinea pigs may be rendered susceptible by the feeding of strange proteid matter opens an interesting question as to whether sensitive guinea pigs may also be poisoned by feeding with the same serum given after a proper interval of time. If man can be sensitized in a similar way by the eating of certain proteid substances may not this throw light upon those interesting and obscure cases in which the eating of fish, sea food, and other articles of diet habitually cause sudden and sometimes serious symptoms?

The susceptibility to the toxic action of horse serum is transmitted hereditarily from the mother guinea pig to her young.

These results upon the hereditary transmission of the susceptibility to the poisonous action of horse serum in guinea pigs may throw light upon the well-known hereditary tendency to tuberculosis in children born of a tuberculous parent. There are certain analogies between the action of tuberculosis and horse serum. Both may produce

a hypersusceptibility and also a certain degree of immunity. Now that we have proved that this hypersusceptibility or anaphylactic action in the case of horse serum may be transmitted hereditarily in guinea pigs, may it not throw light upon the fact that tuberculosis "runs in families?"

Demonstrations of the hereditary transmission of acquired characters are comparatively rare in biology. Where there are several recorded instances demonstrating that immunity to certain infectious diseases may be transmitted from a mother to her young, yet, as far as we know, this is the first recorded instance in which hypersensitiveness, or anaphylaxis, has been experimentally shown to be transmitted from a mother to her young.

Other albuminous substances, such as skimmed milk, peptone, hemoglobin, egg albumen, and vegetable proteids possess no poisonous action upon guinea pigs sensitized with horse serum. Whether guinea pigs are rendered susceptible to a subsequent injection with the same albuminous matter with which they have been sensitized will be reported in a later paper.

We believe that the substance which sensitizes the animal is identical with that which later poisons it. However, the substance must first cause a reaction in the organism resulting in a production of antibodies. We have found that small quantities of horse serum produce, after a definite period of incubation, a condition of anaphylaxis; multiple or repeated injections produce immunity. We therefore possess in horse serum a serum substance capable of causing both anaphylaxis and prophylaxis.

It may be that man can not be sensitized in the same way that we have shown to be the case with guinea pigs. Children have, in a number of instances, been injected with antidiphtheric horse serum at short and long intervals without, so far as we are aware, causing death. Certain serums, for example, the antitubercle serum of Maragliano and the antirheumatic serum of Menzer, are habitually used by giving injections at intervals of days or weeks. In all such cases of frequent and repeated injections the amount which has been injected and the interval between the injections must be taken into account in relation to our work. Von Pirquet and Schick have shown that a second injection of horse serum into children causes an "immediate" or an "accelerated" reaction. Both the immediate and the accelerated reaction in children are characterized by symptoms of "the serum disease."

We might conclude that children may not be sensitized to the toxic action of horse serum by eating horse meat, for horse meat is a favorite article of diet in certain European countries and there is nothing upon record to show that the injection of horse serum in those countries is fraught with more danger than where this diet is not used.

It should, however, be borne in mind that our work has shown that guinea pigs may be sensitized with exceedingly minute quantities of a strange proteid, and that repeated injections cause an immunity, and it does not seem impossible that the same action may be true of food.

Man reacts to the first injection of horse serum after a period of eight to thirteen days; guinea pigs show no reaction as a result of the first injection; both man and guinea pigs react to a second injection. The reactions in man and the guinea pig differ, however, both in severity and in kind. The relation, therefore, that our observations upon the guinea pig may have in their application to man must await further study.

The fact that animals beside man and the guinea pig react to a second injection of horse serum would seem to indicate that we are dealing with one and the same action.

We believe that our results make it probable that man may be rendered sensitive to the injection of a proteid, as is the case with the guinea pig and other animals, and that this explanation must be considered as well as the *status lymphaticus*, which has heretofore been assigned as the cause of sudden death following the injection of horse serum.

“NOTE.—After the galley proof of this article had left our hands an article by R. Otto entitled ‘Das Theobald Smithsche Pheanomen der Serum-Ueberempfindlichkeit,’ reprinted from *Leuthold-Gedenkschrift*, band 1, first came to our notice. His paper deals with some of the problems we have studied and his results are in harmony with many of our conclusions.”

Attempts at Production and Valuation of a Meningococcus Serum.

The trend of modern therapy today, at least, that of what might be called rational therapy, is the attempt to produce specific anti toxins that will be of value in neutralizing toxins.

When Behring announced his discovery of diphtheria antitoxin it was heralded as a new era in curative medicine. It was natural to believe that could we but find the toxic agent in a given disease, grow it in pure culture, we could then produce antitoxin. Although an enormous amount of experimental work has been done, we are forced to admit that, except the diphtheria antitoxin, the antitoxins that have been placed on the market have failed signally to accomplish the de-

sired end. It is true that an antidysentery toxin has been used with success in adults and in children affected with true bacillary dysentery (bloody flux). Possibly we may have further good reports from its use. Antistreptococcus toxin, antitetanus toxin, etc., have not given us the assistance that the laboratory experiments promised.

The meningococcus (*diplococcus intracellularis*, Weichselbaum) has caused mankind much disease and suffering. As yet we do not know how large epidemics are spread when the organism in artificial culture media exhibits such a low vitality. Although exceedingly pathogenic for man, it can be injected into the ordinary laboratory animals in large doses without a fatal effect. Could we but procure an antitoxin, humanity would be much benefited. It is not because of lack of research work.

The latest attempts have recently been published by Kolle and Wassermann (*Deutsche Med. Woch*, No. 16, 1906). As in the production of other immune serums, horses were used and the 24 hour culture killed by heating to 60°C., then living culture injected intravenously into horse 1; subcutaneously the same into horse 2. Horse 3 received a distilled water extract of a living culture subcutaneously for repeated doses. At the points of inoculation sterile abscesses were formed. These were due probably to the strong chemotactic influence of the meningococcus extract on the leukocytes. Curiously enough some animals died while others injected with a similar amount of culture lived. No explanation is offered. Again, the cultures varied in virulence by passage through animals, some increasing in virulence others not changing their virulence in any appreciable manner.

No protection was afforded by the immune serum. In comparison with normal horse serum no differences could be demonstrated. However, the authors succeeded in showing that the specific substances could be only amboceptors.

They promise nothing great from the serum. They believe that it would be more efficacious as a curative agent than as a prophylactic agent. They advise, as soon as possible after symptoms have appeared, an injection of 10 cc. This is harmless. Only on human beings could the efficacy of the serum be proven.

To us this does not promise very much. Until some method is discovered so to enhance the virulence of the meningococcus that the injection into the horse of small doses calls forth a violent reaction,

we can not hope to obtain a serum that will be curative. We, clinicians, are hoping that our laboratory confrères will help us and we trust that the day will not be far off when we shall have in our hands a means to combat successfully cerebrospinal meningitis.

L. M. WARFIELD, M.D., St. Louis.

ORIGINAL ARTICLES.

The Serum Disease, with Report of Two Atypical Cases.

By JOHN ZAHORSKY, M.D.,

St. Louis, Mo.

About a year ago Pirquet and Schick issued a monograph on the subject of Serum Disease, that is the morbid symptoms following the injection of horse serum as is done clinically in the use of diphtheria antitoxin, antistreptococcus serum, anti-pneumococcus serum, antidyenteric serum, etc. This splendid work has stimulated a renewal of interest in the phenomena following the injection of antitoxic sera.

A work of supreme significance is embodied in "Bulletin No. 29" from the Hygienic Laboratory, Public Health and Marine Hospital Service, by Rosenau and Anderson, who studied experimentally the cause of sudden death following the injection of horse serum. The phenomena mentioned are so remarkable that the perusal of this study can not fail to give a shock to the practicing physician. For, as is easily seen, horse serum is really a poison and unless carefully used may do harm.

It has long been known that when a child has received a dose of diphtheria antitoxin and receives another dose of the serum within two to four weeks, the serum disease appears very promptly. Thus, while after the first injection the rash appears after a week or more, after the second injection it usually appears within a few hours. That is, the child has been made more sensitive to the alien serum by the first injection.

tion. This fact is dwelt upon by Pirquet and Schick, but was pointed out by Saunders and others several years ago.

Rosenau and Anderson found that when a guinea pig or other animal is injected even with a very minute dose of horse serum they are rendered very susceptible to a second injection after ten or twelve days corresponding to the incubation stage of the "Serum Disease." The first injection produces no disturbance whatsoever, the second most violent symptoms, with death, as a rule. The first injection sensitizes the animals to ward the second injection. It is a very remarkable effect—one dose does no harm, another dose in three weeks kills in a very few minutes. The respiratory centers are poisoned.

Further studies demonstrated that the toxic action had no relation to diphtheria in any way but was referable entirely to the horse serum. The action is not entirely specific, but only quantitatively so. Guinea pigs previously treated with minute hypodermatic injections of horse serum became very susceptible to subsequent injections of the same serum, but only slightly susceptible to the serum of other animals. The phenomena of hemolysis and precipitin formation have nothing to do with this toxic action, contrary to the statements of some German investigators.

In view of these interesting experiments it seems of great importance to report cases of serum disease, especially those in which untoward symptoms appear; also cases which show great variations as to time of appearance should be included. It is possible by this means that important data may be gathered.

Recently, in my practice occurred two cases which showed a marked deviation as to the time of appearance, that is a special susceptibility to the poison.

CASE I.—T., aged 4 years, had been spending a week in the country, and two days after his return was attacked with a sore throat.

The patient had always been healthy. Was breast-fed until 1 year of age, with nutrition perfect. The second summer he had a mild case of diarrhea, which never became serious and was treated by a change of climate. He had measles when 2 1/2 years old, and has had several attacks of tonsilitis accompanied by fever.

While on the farm he insisted on keeping pace in playing with a somewhat larger boy hardened to outdoor life and, consequently, exercised most too hard. His companion developed chickenpox while our patient was with him and evidently the latter was in the incubation stage of chickenpox when the sore throat developed.

The disease started gradually with a stuffiness of the nose; very slight fever developed and on the fourth day he had a pseudomembrane on one tonsil. Several other spots appeared, but one patch was quite large and could not be readily removed. Subsequent culture revealed only the staphylococcus pyogenes aureus in pure culture. No Klebs-Loeffler bacilli were found.

On the sixth day of the disease, entirely on clinical grounds, 3000 units of diphtheria antitoxin were injected in the side. Two hours later the boy became very restless, cried, called for his father, feeling sick, with hurried respiration and quickened pulse. This persisted for an hour, when he fell asleep; a few hours later urticarial wheals appeared on various parts of the body, and on the following day, sixteen hours after the injection, the serum disease was in full bloom. Seven days later he complained bitterly of pain in one hip joint for several hours. The disease of the throat healed promptly. Chickenpox broke out on the fourteenth day after exposure, and eight days after the serum injection, and was mild in character. Why was this boy, who never had an injection of horse serum or any kind of serum, so susceptible? Did the incubation of chickenpox, the staphylococcus infection, his residence for a week in the country among horses and other animals, or some peculiarity in his constitution, sensitize him to the serum?

CASE 2.—M., aged 8 years, has had sore throat and fever for twenty-four hours.

The boy has never been very well; he had diarrhea in infancy, pneumonia once, and an inguinal abscess a year ago. He is slender built, very thin at present and had always been so. Parents are healthy, and a brother, two years older, is strong and healthy.

He was taken suddenly ill twenty four hours before my visit and complained of sore throat. Examination revealed a large pseudomembrane, typically diphtheritic on the left side

of the throat, covering the whole tonsil and posterior pillar of the fauces; only a small spot on the right tonsil was observed. The cervical glands on the left side of the throat were swollen. The temperature was 103° .

The clinical picture was clearly diphtheria so no culture was taken. The patient received 3000 units of antitoxin at noon and 2000 units at 6 p.m., as the development of the disease seemed severe and rapid this large dose was deemed necessary. Fourteen hours after the second injection an urticarial eruption appeared all over the body, the fever, which had declined, again rose and the patient felt uncomfortable. On the evening of the second day the temperature had declined to 100° and the rash was fading. There were no joint pains. Convalescence was rapid. The throat was clean on the fourth day, although the enlargement of the gland persisted for several days. In this case the question arose, does a second injection six hours after the first hasten the appearance of the serum disease?

Many cases have been reported in which the skin lesion appeared early. Thus, in a series reported by the Clinical Society of London, in 33 cases out of 220 the rash appeared before the sixth day. In a series of 120 cases at the Municipal Hospital, Philadelphia, only one showed the eruption on the second day. After the fourth day the eruptions are common.

According to Pirquet and Schick when a second injection of antitoxic horse serum is given from fourteen days to four months after the first the immediate reaction is obtained. An accelerated reaction may be obtained even in those injected for the second time after four months. But why should exceptional cases give the immediate reaction after the first injection? Why has even death been produced a few minutes after the first injection. What sensitizes certain persons?

[1460 S. GRAND AV.]

CURRENT EDITORIAL TOPICS.

Bacillus Carriers.

The severe or malignant forms of any infectious disease very rarely form a focus for the general dissemination of the germs; clinically the mild unrecognized form is much more dangerous. Another important subject, or germ carrier, are the convalescent, who in the happiness of their recovery are congratulated by their friends, and a dissemination of the infection is liable to occur. Concerning typhoid fever, the New York *Medical Journal* has an editorial:

"The typhoid bacillus has been shown to exist in the intestinal tract for many months and sometimes years after an attack of typhoid fever, thereby producing a constant source of infection to sewage and the potential possibility of an epidemic. The bacilli are also excreted by the urine for some time after the recovery of the patient, and some writers believe that the excretion continues longer than that by the bowels, but that is probably not true, since the internal organs are free from bacteria a short time after recovery, with the exception of the gallbladder, which not improbably forms the repository for the remaining germs.

"The Germans call such persons as have the bacteria in their intestinal tract "Bacillenträger" (bacillus carriers), and they seem to be paying considerable attention to them as originators of epidemics. The source of the bacteria is most probably the gallbladder, in which sac the organisms are present very nearly from the beginning of the attack and where they have been known to remain for many years—twenty in one case. From there to the intestinal contents is a very easy journey with the outgoing bile, and as the typhoid bacillus can multiply in the bile, this secretion thus performs the double rôle of a culture medium for the organisms and a conveyor of infectious material to the intestinal tract. The gallstones which sometimes form around the clumps of bacteria may also be a source of infection.

"In view of these facts, if the recognized cases of typhoid are sources of danger, one may wonder what must be true of the mild and unrecognized cases. It is impossible in the present state of our knowledge to say how long one should disinfect the dejecta, but under ordinary circumstances a thorough disinfection of all urine and feces for a period of three months after convalescence should certainly relieve us of responsibility. If, however, a history of liver trouble is present or if the patient has had any symptoms suggestive of gall-

bladder involvement, care should be maintained for a much longer time, a year certainly not being too long. Moreover, infection by direct contact, distinct cases of which are on record, should never be forgotten, and it may occur through such media as food, cooking and table utensils, clothes, and the like."

A Neglected Element in Dietetics.

Ever since Pawlow's remarkable experiments which proved that taste has a powerful effect on the secretion of digestive juices, more attention has been given the subject of taste in dietetics.

The New York *Medical Journal* quotes Hutchinson, who declares that "to 'taste good' is Nature's stamp of approval upon a food." After referring to another recent article on the same subject, the editorial writer continues:

There is a widespread conviction, not only among the laity, but also in the medical profession, that anything pleasant is necessarily productive of harm to the sick. Stated thus sweepingly, it would probably fail to be generally acknowledged; but it exists all the same, and its salient manifestation is seen in the starvation to which the sick are largely condemned. It seems to be forgotten that God created the stomach to work, not to loaf. Consequently, that organ is singled out for 'rest' during sickness—altogether slighted or else tortured with a tantalizing pretense of feeding. One may not be inclined to recommend the indiscriminate use of fried ham in the treatment of hyperemesis gravidarum, but there is many an old practitioner who can recall instances in which persons dangerously ill, as with typhoid fever, have surreptitiously dined on soft shell crabs or some other dish of like deadly repute and lived to tell the tale, as well as cases in which the apparently moribund victims of cholera infantum have seemed to take a new lease of life on being allowed to chew bacon.

"We have been too forgetful of the necessity of flavor in food. It is a need that holds good with the sick quite as much as with the well, and it is our decided opinion that those who cultivate the art of cookery have a great opportunity to add material to our resources in the struggle with disease, and especially with chronic dyspepsia. Let the dishes be 'rich,' not the poverty-stricken slops of the regulation sick man's dietary—unless, indeed, there is thought to be further hope than that of reconciling the patient to death, even in which event a decently humane regard for euthanasia would interdict such harsh measures."

The Doctor and the Automobile.

There can be no doubt that the automobile is increasing in popularity with physicians. Perhaps many do not figure their actual cost; for part of the expenditure must inevitably be charged to the amusement and trouble which is derived in the delightful rides. Many medical journals have been discussing the automobile and altogether it may be stated that the enthusiasts for the automobiles are ahead. A writer in the *California Medical and Surgical Reporter*, June, 1906, humorously asks:

"Can a doctor run an automobile and be a Christian? Morphin slays the manhood and makes a thief and a liar, whiskey brutalizes and makes a man a driveling idiot, and an automobile makes a man swear like a pirate. It is harder for a man running an automobile to abstain from profanity than for a rich man to enter the kingdom of heaven."

Unusual Localization of Gout.

Every now and then some writer finds gouty symptoms in some other organ beside the great toe. That other joints beside those of the toe may become the seat of gouty irritation is well known, but the *New York Medical Journal* contends that it is difficult to rid ourselves of a feeling of skepticism as to gout in other organs. The writer refers to a recent article by d'Estrées (*Lion Medicale*) who recalls that gouty orchitis is not uncommon in England. To quote:

"Debout d'Estrées inform us that he was the first to maintain the existence of gout of the parotid gland, in 1885. In his first patient the disease showed itself primarily in the right parotid, and the right knee, finishing with a discharge of saliva loaded with urates. The pytalism lasted for several weeks after the disappearance of the articular pains. It appears that the decisive arthritic attacks may be postponed for a long time, for an instance is mentioned in which the late Dr. Damaschino caused the parotid of one of his patients to be incised, thinking that the case was one of abscess, and in which two years elapsed before an outbreak in the toe established the diagnosis. Thus far, twelve cases of parotid gout have come to the author's knowledge, one of them observed by Garrod, of London. In such attacks the parotid is swollen and painful, but without any tendency to suppuration, and resolution occurs only after a metastasis."

Weichardt's Toxin of Fatigue.

New toxins are discussed every year. some of these, fortunately, are found only in the test tube of the experimenter. A work to which insufficient attention has been given, by Weichardt, promises much for both physiology and pathology. The *Medical Record* thus states our present knowledge:

"Among the most puzzling problems with which physiology has had to deal has been the question of muscle fatigue. It has long been assumed that during this process of diminishing irritability which we know as fatigue, substances are produced which exerted a poisonous influence upon the muscle tissue. This opinion is based upon the facts that a tired muscle can be restored almost completely by being flushed out, through its own vessels, with salt solution; and that fatigue can be rapidly produced in a normal muscle by injection into it of the extractives obtained from muscles already fatigued. Exactly what these toxic substances were was not known, but it was supposed that they were definite products of metabolism, and sarcolactic acid, creatin, creatinin, with various other proteid derivatives, have been held responsible."

But Weichardt was not satisfied with the common explanation. He sought for a definite toxin, like ricin. The effects of training especially could not be explained by the common view. To quote again:

"With this idea before him, Weichardt produced fatigue in guinea pigs by forcing them to pull against resistance, and then the muscles of these animals were removed under the most stringent aseptic precautions. All fluid as far as possible was pressed out of them and from this muscle juice all the products of metabolism heretofore held responsible for fatigue were removed by dialysis. The substance thus obtained was found to follow, in most respects, the laws governing other toxins. By its injection into animal, Weichardt could produce, by small doses, rapid fatigue; by large doses, death, accompanied by all the symptoms observed in the original animals during the process of mechanical tiring. The temperature in both cases acted identically; at first rising, then rapidly falling, and continuing to do so until death. The substance was very sensitive to heat, its toxicity being destroyed by an exposure to 56°C., and in solution it became ineffectual after only a few hours' standing, unless kept at extremely low temperature. Finally, it was possible, by the treatment of horses with this material, to produce an antibody in the serum of these animals which neutralized the action of the toxin both *in vivo* and *in vitro*."

The Orthography of the Bacteria.

The Brooklyn *Medical Journal* makes some good suggestions in regard to the names of bacteria. We should follow the examples of botanist and zoölogists. The scientific names should be expressed in italics, the common, or English, names in Roman letters. To quote:

"For the most part the bacteria are as yet without other than the Latin names given them by their discoverers or describers, which, according to the law of priority, always remain the same. To spell the names in ordinary characters without italicizing would signify that they had become Anglicized. This the Latin or scientific name can not become since these names have been given them for the special purpose of characterizing them among scientific men of every tongue the world over. There is no need, though there is no objection, to naming the bacteria in all cases in English phraseology as well, unless for the purpose of giving them briefer or more familiar names, and this would also often lead to confusion. As to capitalizing the scientific names, medical men might properly follow the lead of the botanists. These invariably give to the generic or first name a capital, and in most instances to the specific or last name a small letter. The exceptions are those specific names which have their origin in a proper name, as when named after an individual or country.

"Modern zoölogists invariably give the specific name a beginning small letter whether it is derived from a proper name or not, and for the sake of uniformity this plan has advantages. In fact, we believe botanists might follow this method with advantage in simplification."

The Acidity of the Urine.

The New York *Medical Journal* editorially discusses Joulie's method of "Ascertaining the Acidity of the Urine." Attention is directed to the fact that the acidity of the urine is due to the acid phosphates which exist in the blood, and the latter, consequently, is really an acid solution. The writer claims that the alkalinity of the blood is due to the presence of bicarbonates. To quote:

"It is known that the phosphates of calcium and magnesium are so sensitive to any trace of alkalinity that they readily become precipitated, even in a medium which is still faintly acid. Furthermore, it is known that these earthy phosphates are very frequently present in the urine, especially during digestion. Now, in order to enter the urine in a state of solution they must of necessity have been in a state

of solution in the blood, and inasmuch as they will not remain in solution in an alkaline medium, there is no escape from the conclusion that the blood from which they have been derived is acid and not alkaline."

Hence, the acidity of the urine is really an index to the acidity of the blood. The real urinary acidity is phosphoric acidity. To quote again:

"The specific gravity of the urine to be examined is taken at 15° C. If the temperature differs from this figure, a correction is made according to a printed table. The total acidity, that is to say, the acid from all sources, is now calculated, and is expressed in terms of the amount present in a hundred parts of the excess of the urine over that of distilled water at the same temperature. In this way the errors inseparable from the varying amount of water in different samples of the same person's urine are altogether avoided. The degree of dilution of a specimen, always hitherto a matter of difficulty, may thus be disregarded. Thus, if the specimen in question shows a specific gravity of 1020, the excess (which is called E) is 20, because the density of the water at 15°C. is known to be 1000. The total acidity is calculated by means of precipitation with a standard solution of succrate of calcium (10 grams of powdered chalk and 10 of sugar to 1 liter of distilled water). The figure thus obtained is called A. Thus we have $A \div E \times 100 = R A$ (*i.e.* the percentage of total acidity in E). The normal standard for R A as worked out by Joulie is between 4 and 5—as nearly as possible, 4.5. But, as we have already seen, this total acidity is from our point of view a matter of secondary importance. What we wish to ascertain is the amount which the acid phosphates contribute to this acidity; in other words, how much of this is serviceable phosphoric acidity, and how much of it is organic, fortuitous, and undesirable.

"The next step is, therefore, to determine the amount of phosphoric acid, combined and uncombined, which is present in the given specimen. This is calculated by the classical method with nitrate of uranium and ferrocyanid of potassium, and is expressed in terms of the amount present in 100 parts of the excess of the urinary density over that of water at the same temperature. If we call the total phosphatic contents thus obtained P, we have the following formula, $P \div E \times 100 = R P$ (*i.e.*, the ratio of the phosphates; in other words, the percentage of total phosphatic contents of E). The normal standard for R P as estimated by Joulie is between 11 and 11.5, as nearly as possible 11.17. In order to find what we are in search of, namely, the amount which the phosphates contribute to the total acidity, it is necessary to divide R P by R A, thus: $R P \div R A = 11 \div 4.5 = 2.45$

This represents the normal percentage of active phosphoric acid, that is, the amount which is capable of neutralizing an equal atomic weight of base, in E, which is the excess of urinary density over that of water.

"When the readings show that both R A and R P are below the normal, the explanation is simple enough. It is that there is an insufficient quantity of phosphoric acid in the blood and the symptoms are therefore due, at least in part, to the deposition of earthy phosphates in certain organs and tissues, the treatment resolving itself into the administration of phosphoric acid in gradually increasing amounts. An examination according to Joulie's method will not only establish the fact of hyperacidity or subacidity, as the case may be, but will give us the degree of the deviation from the normal and at the same time inform us of the proper line of treatment."

Lumbago.

The New York *Medical Journal* presents some very pregnant facts in regard to lumbago, a topic which was the subject of its readers' discussion.

"In the first place, lumbago, an ailment of which the pathology is by no means clear, has a natural tendency to subside spontaneously within a comparatively short time, and often rather suddenly; hence, whatever therapeutic measure is resorted to last in the course of a case is apt to be credited, quite undeservedly, with having effected a cure.

"We doubt if dieting or any form of regimen has a pronounced tendency to shorten the duration of lumbago, we question if the patient's accustomed use of alcohol should be interdicted, and we are sure that the proscription of tobacco is entirely uncalled for. We know of no shadow of evidence that the use of tobacco is capable of aggravating lumbago, and we can imagine no other reason for forbidding it than the plan—unfortunately still too common in medical practice—of taking it for granted that anything which is pleasant for a sick man is necessarily injurious to him.

"Then there is the stereotyped advice to keep a lumbago patient in bed. For what reason? True, a quiescent state of the muscles affected brings freedom from pain, but how much real quiescence does a man get in bed? Unless he is one of those clamlike creatures that lie as motionless as a log, he is sure to try to turn over almost as soon as he falls into a doze, and doze he will if he has to lie in bed. As soon as he begins to turn he is almost sure, if the case is at all a severe one, to be seized with lightninglike spasm of the dorsal muscles,

and it is true that many a victim of lumbago suffers more at night than during the day.

"What the muscles of the back need in many cases of lumbago is active exercise. The ironing process, faradization, acupuncture, irritating applications and massage are doubtless all productive of temporary relief, but as a rule, they are inferior to muscular exertion. We are aware that it is torture for a person with lumbago to rise from his chair and walk off, but the lameness will be much mitigated in a few minutes, and then walking will bring decided relief for the time being and, we believe, abbreviation of the trouble."

MEDICAL DIGEST.

DEPARTMENT EDITORS.

Dr. M. A. Bliss, Neurology.	Dr. Adrian Bleyer, Internal Medicine.
Dr. H. N. Chapman, Electrotherapy.	Dr. Carl Fisch, Bacteriology and Pathology.
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Dr. O. A. Wall, Jr., Pharmacy and Materia Medica.	

Nursing Ethics.

In the June number of this Journal we quoted from an editorial (*Bost. Med. and Surg. Jour.*) in which a strong position in regard to the "Overtrained Nurse" was taken by some leading practitioners of New York. We feel that we must give something on the nurse's aspirations in this direction. We will consider an article by Miss D. Elva Mills, of the Presbyterian Hospital, Chicago, (*Dietetic and Hygienic Gazette*, June).

After a most learned discourse on the subject of ethics, and some reference to the early struggles of women in the pioneer work of nursing, Miss Mills announces the moral code:

"Our code of moral law has long since been announced—that nurses are to be a compendium of all the virtues, and are to have a comprehensive knowledge of all that pertains to their vocation, of either theoretical or practical value. Tactfulness, good judgment, common sense, cheerfulness, honesty and what not are to be our motives of common life, and if we are successful we must combine these

judiciously, not failing to emphasize each trait and virtue individually as well as collectively, so long as we are in the profession."

Nursing certainly is a profession and not a vocation as appears again and again in the article. To quote again:

"Among the foremost of our needs, as considered at present, is that of harmony in organization and co-ordination of method. Undoubtedly this, as the primary movement, will lead to a decided revolution of the profession generally, and by uniting forces and working in a systematic manner, much power and better results will be gained. Energetic individual thinking along the lines of state registration and its contemporary as well as subsequent activities, is required of all nurses who mean to be up to date and who expect to rise in the profession."

It is obvious that Dr. Thomson's assertion that State Registration is unnecessary is not receiving the support of the nurses. In reading through this article one is struck with the trifling correlation of physicians to nurse; in fact, the former useful member of society is not mentioned. She writes of the obligations to the the superintendent in glowing terms: "Last, but not least, she must hold a thorough belief in, and loyalty to, her own profession."

We are glad that an appreciation of a difference between the private and hospital nurse is manifested. To quote:

"The visiting and army nurses have their own particular code of laws; the private nurse can not be governed by the rules of the institutional nurse, and *vice versa*. I think we all shall be glad to welcome the new regime by which the private nurse and her needs and work are put before us in a more definite manner, and by which these nurses are encouraged to discuss the work they do, and the problematic questions that come to them. The position they hold is not always an easy one, where they stand to serve and yet to be served. It is to be hoped the public generally will appreciate that the nurse has now her honorable position—one of heavy responsibility and worthy of credit."

We are sorry to find that ethics is the dominating principle in the nursing "profession." Helping womanhood—to patient and physician so often is obscured by ethics.

Unusual Heart Murmurs.

It is singular that even heart murmurs are receiving a severe arraignment as diagnostic signs. The consensus of opinion now is that a murmur alone means very little, other corroborative signs must be found. Bennett (*Jour. Med. Soc. of New Jersey*, June, 1906) goes over the whole subject and gives the literature on the subject of cardiac pulmonary, and accidental murmurs. On some of these doubtful questions he gives positive answers:

"There is, then, abundant testimony that the cardio respiratory is not of trifling significance and that its existence, once differentiated from the organic murmur, demands most thorough investigation of the pulmonary condition. The fact that these murmurs usually occur in the type of persons especially prone to tubercular troubles, the slender, flat chested, light weight people, should make us extremely careful lest in our zeal to eliminate heart disease we overlook a danger even more imminent. However, it certainly is not always possible to demonstrate pulmonary trouble in these cases, and I am compelled to admit that I can not recall ever having found such a murmur with undoubted lung disease, although I have often sought to establish the relationship."

The author regards a murmur only heard in recumbent posture as suspicious, in opposition to Sansom. We quote again:

"Is it then possible always to affirm that a murmur is or is not dependent or caused by a diseased condition of the heart valves? My own opinion is that it is not possible to give a positive answer in every case. Of the great majority of murmurs, one may feel confident that they are organic; of many others one may be assured that they are functional and comparatively innocent, but there will still remain a smaller class as to which competent men will differ, both as to diagnosis and prognosis, and cautious and conservative men will frankly admit their inability to decide."

The most exhausting study of the history and condition of the body is necessary, in doubtful cases. He reports several interesting experiences which are to the point:

"A recent examination of a tall, lean, underweight young man in apparently good health revealed a systolic basic murmur which I should have thought functional but for the fact that his pulse was 90, slightly irregular and intermittent. I believe the murmur was organic.

Another case in which a murmur had been reported three years previous was recommended by an excellent examiner as a safe risk and the murmur pronounced cardio respiratory. Seen again a few days later after exercising, he finds the murmur still present but heard over wider area and he yet adheres to his former opinion. I believe this murmur was organic, as I do not consider that a functional murmur would persist for three years or its area of diffusion be markedly increased by exercise. A third case of a man, aged 35 years, well built and not anemic, who presented a slight systolic murmur at the pulmonary area and radiating to the left of, but above the line of apex. It was not heard over the apex, either when at rest or after exercise and the apex was in its normal position and the heart not enlarged. Examiner thinks the murmur not organic. But the applicant has albuminuria, hyalin casts and red and white blood cells in the urine. I should feel very suspicious that the heart trouble was organic.

"Just one more case in illustration. A young man, about thirty, well and strong in appearance and with no other evidence of disease, presented a systolic murmur at the apex, radiating all around the left side to the angle of the scapula and in the axilla. This was heard during inspiration and when the breathing was suspended and in either the horizontal or the erect position and with the unaided ear or stethoscope. The apex was directly under the nipple or a shade to the outside. The murmur was very faint and soft and I was at first inclined to call it a cardio respiratory, but calisthenics very much increased its force, and I finally recorded it as an organic murmur with slight hypertrophy. I also elicited the statement that he had formerly been an amateur bicycle road racer, and this fact, as a causative factor, materially helped in my ultimate disposition of the case. After all, some cases must remain in doubt."

The Relation of Excessive Gastric Acidity to Gastric Symptoms.

We are glad to note a distinct tendency of physicians to inquire beyond the physical and chemical changes found in examining the stomach. Especially is gastric hyperacidity still an enigma in many cases, and the following abstract (*Medical Record*, June 9, 1906) shows how our thoughts are being moulded. The paper was read by Dr. J. D. Steele at the last meeting of the American Medical Association:

"He said that his object in presenting this paper was to confirm Dr. Stockton's observations, and he proposed to go a step farther to show that excess of acid alone was not capable of producing the

symptoms of gastric irritation seen in so-called hyperacidity. There must be some other condition present which rendered the gastric mucous membrane more sensitive than usual, so that it could not stand an amount of acid that would be easily tolerated if the mucous membrane was in a normal condition. In order to determine what produced this hyperesthesia of the gastric mucous membrane he presented an analysis of a series of 30 cases with symptoms of hyperacidity, which showed quite clearly that the irritation occurred, not only when the per cent of the acid was high, but often when it was within the middle and lower grade. This would indicate that the mucous membrane was so hypersensitive that it was intolerant not only to high grades of acid, but often to middle or low grades. In about one-half of his cases the cause for irritation and pain laid in the existence of decided gastric motor insufficiency or of hypersecretion. In his cases 3 had undoubted signs of alimentary hypersecretion. Ten cases had decided retention. In 14 cases of his list no cause could be demonstrated for the hyperesthesia. In 7 the acidity was of the higher grade and in the other 7 of the lower and middle grades, including one case of achylia. In almost all the cases the gastric symptoms were directly connected with overworry or fatigue, or were the part of a general nervous irritability. In all the patients the gastric symptoms improved and finally disappeared under a treatment directed toward relieving the nervous strain and raising the level of nutrition without paying much attention to the conditions of the stomach. The result of the treatment, quite as much as anything else, would indicate that the hyperesthesia was a local manifestation of a general nervous irritability. That is, it was a sensory neurosis of the stomach. If what he said was true, namely, that the hyperesthesia rather than the acidity was the point of attack in our therapeutics, then considerable light was thrown upon the treatment of the condition. Dr. Steele then considered briefly the following three points in the treatment: The diet, the use of sedatives, of alkalies and of nux vomica. Regarded from the standpoint of the treatment of hyperesthesia of a nervous origin, a liberal and unirritative diet would be the most suitable; its liberality would improve nutrition, and in this way help general nervous irritability. All food should be given in such a form as to produce the least possible irritation. To relieve the pain the acid should be neutralized after the height of digestion, and this required the use of alkalies at about the time the pain would appear. The various nervous sedatives had proven very useful in temporarily relieving the discomfort in these cases with irritative symptoms. In the rare cases of achylia with hyperacidity symptoms they were the only means of relief. The beneficial effects of nux vomica in spite of the apparent contraindication to its use in cases of hyperacidity symptoms, were perfectly explained when we considered that it was a sensory neurosis and not a tempo-

rary increase in gastric acidity that we were treating. His own experience had shown that nux vomica given as Musser suggested was an excellent remedy in those cases where one was attempting to remove a local neurosis by increasing the general nervous stability of the individual."

Treatment of Dysentery in Infancy and Childhood.

We give below abstract of an article on this subject, published in the June number of the New Orleans *Medical and Surgical Journal*, translated from *Gazette des Hopitaux*, by Rosseau, Saint Phillipe. It verifies the common assertion that the profession is by no means a unit on this subject. Thus Monti considers castor oil irritating to the inflamed and ulcerated colon. The stomach is so liable to become irritable in this disease that the powdered ipecac is not usually tolerated. Still some of his suggestions may be valuable in certain cases. It should always be remembered that the disease is self-limited (like typhoid fever) and that too much medication may seriously interfere with nutrition:

"No bismuth, no rhatany, no tannin, no antipyrin, no opium. The latter, exceptionally, and at the onset, just for severe pain.

"Use laxatives (elimination, drainage). Calomel, valuable in cholera infantum, is not so here. Salines are for cases of some standing. On the contrary, castor oil, alone, or with fresh sweet oil, or preferably, the potion huileuse (French Codex), namely, fresh sweet almond oil 30 grams, julep 125 grams. But this is not tolerated long enough, since this form of enteritis lasts on an average of three weeks.

"Therefore, if the attack be not over at the end of a few days, embarrassment begins. Here is a way out of it. Give powdered ipecac (the mainstay it not the specific in dysentery) and a small quantity of sodium and magnesium sulphate. If there be fever, use aconit, dispensing with it as soon as the temperature ceases.

"Failing, try a cold maceration of freshly powdered guarana, 50 centigrams, to 1 gram in sweetened water, 120 to 150 cc., to be given in tablespoonful doses every two hours, day and night. Beware that no simple paullinia powder is substituted for the complex powder obtained by scraping the roll of guarana paste. Ask for the pharmaceutical preparation known as paste of dry guarana powder.

"Rectal enemata, the simple cleansing lavage, as well as the medicated ones, viz., peroxid, nitrate of silver, iodine, etc., solutions, should

be resorted to with great caution and only when the treatment by mouth fails, since they often increase tenesmus.

"No food, water diet, and, next, vegetable decoction (*bouillon de legumes*).

"During convalescence the cuissine for babies is still more important. Here are suggestions for those who are not familiar with it:

"Resume milk carefully, dilute it with malt coffee (parched barley), then give milk with egg, then thin soups and purees (light paps).

"To prevent constipation following the attack, give rhubarb, which is, indeed, the aperient and cholagogue of infants and children."

Carbohydrates in the Diet of Children.

There are still common misconceptions concerning starches in infancy. As a rule the starchy foods are looked upon with suspicion, although a cereal decoction is promptly employed in gastro-enteric infection. Why it should be dangerous for the healthy infant, but helpful to the sick infant is not clear. A summary of recent studies on this subject is given by Drummond (*Glasgow Medical Journal*, May, 1906), from which we quote freely:

STARCHY FOOD IN INFANCY.

"Kerley and Campbell of New York have made a series of observations on the stools of infants to whom starchy food was administered. The children's digestive capacity for starch was gauged by means of the iodine or von Jaksch test. The observations at present published cover 166 examinations made on 30 children, all under one year of age. Of the 30 cases, 23 showed a good starch capacity. Of these, 11 had diarrhœa. Of the 7 who had a poor starch capacity, 1 was eight days old, the other 6 had diarrhœa. In 16 children the examinations were persistently negative to starch. Of these, 11 were six months old or older, and 5 were under six months. Among those under six months, 1 was nineteen days old; he took 142 grains of starch daily, the stool being negative to the two examinations made on two successive days. One was five months, twenty-six days old. He was given 375 grains daily. Five examinations were made, all being negative. To test his digestive capacity, 1560 grains were given for two days. The stools failed to respond to the iodine test.

"These observations are insufficient to base any very far-reaching conclusions upon, but they indicate that further experiments extending over a longer time might be worth carrying out.

"Roux of Cannes has also published an essay dealing with the use of farinaceous food in nurslings. He accepts the general teaching that only very minute quantities of starchy foods may be given between the sixth and the ninth, small quantities only from the ninth to the twelfth month; and that relatively large quantities may be given after the first year. He then proceeds to discuss the question how much farinaceous food may be given. He maintains that if farinaceous food is given it should be substituted for an equivalent amount of milk, a coffee spoonful of farina, or 6 grams, being substituted for 25 or 30 grams of milk. The following table is given as an indication of the line of feeding which might be adopted in suitable cases:

"For a child of 8 kilograms—about 9 months—6 feedings of 100 to 120 grams of milk, and one of 80 to 90 grams of milk plus a coffee spoonful of farina.

"For a child of 9 kilograms—about 1 year old—5 feedings of 135 to 145 grams of milk, and two of 110 to 120 grams of milk with a spoonful of farina.

"For child of 10 kilograms—about 14 months—4 feedings of 145 to 175 grams of milk, and three of 110 to 120 grams of milk with 2 spoonfuls of farina.

"The dietetic value of farinaceous food is next discussed. The first point is that its caloric value is enormous as compared with that of milk. One hundred grams of milk average 72 to 75 calories, while 100 grams of farina (flour, barley, rice) give an average of 350 to 380 calories.

"Farinaceous food also has a distinct value in diminishing the fermentation of the curd. This is attributed to the more prolonged production of lactic and succinic acids during the digestive process than when milk alone is given. At the same time the starch given must be within the digestive capacity of the child.

"As regards the choice of particular forms of farinaceous food for infants under 14 months, the author would use only those which consist almost entirely of starch, such as sago, arrowroot, and rice. These contain about 80 per cent of starch.

"Next he would make use of those which, while rich in starch, contain a fair amount of albuminoids, such as barley, rye, wheat flour, maize. These are especially indicated during the second year, and should be varied from time to time.

"A third variety of farinaceous foods includes those which are rich in starch and albuminoids, such as peas, lentils, beans. These contain 50 per cent of starch and as much as 25 per cent of albumin. They should not be used until the third year.

"The farina to be used should be mixed with a little cold water and dried in an oven or on a gridle. The necessary quantity should then be stirred into hot milk and boiled for six to ten minutes."

CARBOHYDRATES IN OLDER CHILDREN.

"It is generally admitted that the proportion of proteid in the diet of growing children should be greater than in the diet of adults. But children require also a large amount of carbohydrates, the total amount being greater in proportion to the body weight than that required by the adult. According to Hutchison, a child aged 5 years, requires one-third as much carbohydrate as an adult man.

"As a general rule the carbohydrates are readily assimilated, but occasionally this is not the case, and several writers have recently attributed various affections of children to defective carbohydrate metabolism. Thus Dr. Francis Hare points out that there must normally be a balance between the carbon income of the blood and the carbon expenditure.

"The former process (carbonisation) depends upon the carbon intake and the efficiency of digestion and assimilation. The latter (decarbonisation) includes combustion, fat formation, and the formation of certain secretions (such as milk, sebum, bile) and a certain amount of direct loss, as from hemorrhage. To the condition of balance in which the carbonaceous material of the blood is not in excess of the physiological requirements of the organism, the term pyremia is applied. If carbonaceous material accumulates in the blood to a pathological degree, the condition may be termed 'hyperpyremia.' What the exact constituents present in the blood may be is a matter for surmise. But hyperpyremia is different from hyperglycemia, inasmuch as the latter leads to glycosuria.

"Dr. Hare's theory is that many acute recurrent processes such as migraine, vomiting, asthma, major epilepsy, are means by which the organism gets rid for the time being of the recurring load of carbonaceous material in the blood. Some of these processes, such as attacks of cyclical vomiting, act by restricting the intake; while others, such as asthma and major epilepsy, operate by increase of expenditure.

"The same writer offers a somewhat different explanation of the cases of recurrent pyremia with vomiting and unhealthy stools not uncommonly met with in children. In these cases he thinks there may be an accumulation of glycogen in the liver to such an extent that the portal capillaries get pressed upon and a mechanical congestion is induced in the mucous membrane of the alimentary canal. The congested mucous membrane swells up and blocks the openings of the common bile duct and the pancreatic duct. Digestion is interfered with, and nausea, vomiting, and perhaps diarrhea occur. During the attack the liver cells are unloaded of their glycogen and their functions are then gradually restored.

"Dr. Eustace Smith, in an article on 'Food Fever in Children,' re-

fers to the same class of case, but gives a somewhat different explanation. According to him these are really cases of acute gastric catarrh due to fermentation in the alimentary canal, and are often traceable to a definite chill. The patients suffer from cold feet, and consequently their resisting power is so feeble that they are prepared to suffer from a comparatively slight exposure.

“Whatever the explanation of these cases may be, both writers are agreed as to the importance of restricting the starches and sweets in the diet. Hare summarises the treatment thus: Restrict the intake of glycogen-forming material, especially the carbohydrates; increase the expenditure of glycogen, especially by physical exercise; avoid sudden cutaneous vaso constriction by protection of the surface from chill.”

Medical Treatment of Gallstone Disease.

Dr. Wilcox, before the American Therapeutic Society, read a paper with the above title, and it has a message to physicians and that is—all gallstone diseases are not surgical. The following abstract is taken from *Medical Record*:

“He said that, voluminous as was now the surgical literature upon the subject of gallstones, a careful consideration of the matter led him to place surgery as adapted only to stones of gallbladder origin, and then only under considerations demanding mechanical relief. The field of surgery here was very limited, though surgery was of great importance when indicated. In other words, the treatment of gallstone disease was practically entirely medical, while that of gallstones themselves was generally surgical. If this distinction was kept clearly in mind, more would be expected of the internalist, and fewer disappointments laid at the door of the surgeon. Gallstones were either hepatic in source or were formed in the gallbladder; the former being by far the most common. Having referred to the microbic origin of gallstones, he said that the treatment of microbic causes of the stones was the treatment of the infection itself, and the limitation of the opportunities for entrance of the infectious agent. He then spoke of the mechanical causes. Among these was chronic venous congestion of the portal system, the great underlying cause of the gallstone disease. As to extraneous causes, anything which reduced the vitality of the individual was predisposing. Stating that the causes thus far mentioned called for treatment which was chiefly prophylactic and practically medical, he referred next to some of the results of gallstone disease, such as diabetes, pancreatitis, and the so called intermittent hepatic fever. In regard to surgical procedures it was to be borne in mind

that the diagnosis must be established by the physician and that the surgeon should be held responsible only for the relief of mechanical conditions. As to medical treatment in general, the Spa treatment appealed to many. Success was based upon the fact that there the patient's diet and habits of life were regulated and the salines diminished congestions and inflammations in the portal area. Equally good results, he thought, could be obtained at home. Exercise in the open air and a properly regulated diet were very important. As to medicines, salicylic acid was an excellent cholagogue and phenolphthalein a safe and prompt curative, whose antiseptic effects were prolonged through the whole length of the alimentary tract. The following combination pill Dr. Wilcox found most serviceable, increasing peristalsis, allaying nausea, and acting as a carminative as well as an intestinal antiseptic: Salicylic acid and acid oleate of sodium, each $1\frac{1}{2}$ grains; phenolphthalein 1 grain; menthol, $\frac{1}{4}$ grain. Four to eight pills were given in a full glass of hot water once or twice daily. The salicylic acid should be obtained from natural sources, and the acid oleate of sodium carefully prepared. The latter, like salicylic acid, was excreted by the epithelium of the bile ducts to assist in disinfection. Both bile as a whole and its salts were uncertain in action. Sodium glycocholate was the best of the salts. Having given the details of two illustrative cases, he said that the conclusion we should reach was that gallstone disease is not purely a disease due to a foreign body, is primarily a hepatic disorder. The removal of these stones had but little to do with the cure of the patient, for when the end result, the removal of the gallstones, had been accomplished by the surgeon, the patient was but at the commencement of his treatment to remove the cause of the disease, which was entirely within the province of the physician. It was the congestions and inflammation in the domain of the portal system, the infectious catarrhs of the bile ducts and bladder, and the faulty bile formation in the liver, that required attention, and the problems thus presented were purely medical. The elimination of gallstones of the hepatic variety was generally rapid. That they might be painless was best accomplished by the administration of amyl valerate, 15 minims in capsule, two hours before breakfast and after supper.

The X-Rays and Sterility.

The following is abstracted from the *Jour. Adv. Therap.*, March, 1906:

Albers Schonberg about a year ago first drew attention to the fact, that in male rabbits and guinea pigs in which the abdomen was exposed to the action of x ray, an azoöspemia was gradually de-

veloped. Recently Halberstaedter, (*Berliner Klin. Woch.*, January, 1906), who worked under Wiesser's direction in his clinic, presents a more convincing series of observations. He studied the effects of Roentgen rays on the ovaries of rabbits and found that by exposing one side of the abdomen, while the other was suitably protected, marked macroscopic and microscopic alterations took place as determined by subsequent autopsies. To prevent possibility of error, the ovaries in another series of animals were first inspected by performing an exploratory laparotomy and then exposing them to the rays after the wound had healed. Any inherent difference between the two organs could be thus noted. It was found, therefore, that the marked differences between the two sides could be ascribed to nothing else than the rays. The histological change most in evidence was the complete disappearance of the Graafian follicles in about fifteen days. It is not yet known whether this loss is permanent or whether or not, regeneration can take place. Halberstaedter found from his experiments that the ovaries seemed more sensitive to the effects of the rays than the outer skin of the abdomen, and when compared with control experiments in male rabbits developed degeneration changes in a shorter time and fewer exposures. The first observations upon human beings are those of F. Tilden Brown, who at the January meeting of the Section of Genitourinary Diseases of the New York Academy of Medicine, reported a series of observations with regard to the sexual condition of the physicians and patients who have been exposed to the x-rays: "He had to announce that men, by their mere presence in an x-ray atmosphere, incidental to radiography or the therapeutic uses of the rays, after a period of time—as yet undetermined—will be rendered sterile. In the last few days ten individuals who have devoted more or less time to the work during the past 3 years—none of whom have had any venereal disease or traumatism involving the genital tract—have been found to be the subjects of absolute azoöspemia. None of the number are conscious, however, of any change or deterioration in regard to their potency. In a reported case of pruritus ani, the patient was known to have active spermatazoa before exposure to the x-rays, but these disappeared after the treatment, and for several months no signs of spermatazoa could be found—after three months there was a gradual return to the normal and active spermatazoa were again found. The biological effects of the x ray and radium radiations upon lower organisms, the germinating power

of seeds and the vital change which takes place in the tissues of the meal-worm, for example, pointed to the possibility of this action upon the spermatazoa and ovaries—yet there is no corroborative evidence of the experiments made upon animals by German observers save those of Dr. Brown. The *Medical News* in treating the news editorially states that while further proof is desirable, it is just as well to take the bull by the horns and institute measures for securing efficient means of protection for both physician and patient. In this way no restrictions need be placed on one of the greatest of modern therapeutic and diagnostic measures. This, however, could not be done in women who are exposed to the action of the x-ray for the treatment of constipation—in intestinal indigestion, mucomembranous enteritis, vague neuralgic pains, etc., as is commonly done by many x-ray workers. In our opinion x-ray energy should not be used in these benign conditions, when there are other forms of physical energy which will equally well, if not better, meet the indications, whose limitations are less vague and whose influence are better understood. When it is a question of malignant disease the possibility of such an untoward accident as disappearance of the Graafian follicles is of no moment, but in benign conditions it is.

There are a few cases of retrogression of fibroid tumors of the uterus reported from the use of the x ray and the question arises—believing these cases to be correctly reported—as to whether there may not have been an influence exerted upon the ovaries in these cases of the nature of atrophic changes. In the hands of unscrupulous quacks this valuable agent may come to be used for the purpose of inducing sterility in women. Greater care and discrimination should be taken and under no circumstances should an agent whose possible influence is beyond our knowledge be used where other measures will suffice. In expending energy within or upon the tissues of the living being, it is not necessary to resort to that to be obtained by a blow with a sledge hammer when that from a humming bird's wing will suffice."

H. N. C.

A New Test for Blood in the Urine.

The old guaiacum test has its drawbacks as everyone who has tested for blood in the urine knows, it is not always reliable.

Donogan's test, ammonium sulphid and pyridin, is not always positive and its reactions must be controlled by spectroscopic examination.

The following abstract (*New York Medical Journal*, June 16, 1906) of an article in *Raussy's Vrach* gives us a new test:

"Klimoff regards the usual tests for blood in the urine as inaccurate, and recommends the reaction described by Klunge in 1883, known as the aloin tests, and gives the following modification of Klunge's test for the urine: To the suspected urine in a test tube an equal amount of old turpentine is added and to this a small amount of aloin in powder is mixed. The mixture should be then gently heated and the presence of blood is evidenced by a bright purple color. If no blood is present, the urine remains yellow. Hydrogen peroxid is still better than turpentine, as sometimes turpentine does not contain a sufficient amount of ozone. There is but one limitation to this test, namely, the urine must be acid, for an alkaline urine gives a positive reaction with this test whether or not there is blood in it. In order to differentiate the bloody from the nonbloody urine in these conditions it is necessary to add a little acetic acid to the purple mixture. If the urine had been alkaline, but had not contained any blood, the acid will cause the purple color to give way to a yellow tint, while if blood was present, though the urine was alkaline, the addition of acid will not change the purple color. Urine of jaundice also gives the positive aloin reaction independently of the presence of blood. The test is simple, sensitive, and trustworthy."

Diphtheria Antitoxin in Chorea.

Since a diphtheroid bacillus has been isolated from the blood of cases of paresis, and the diphtheria bacillus has been found in the cerebrospinal fluid in a case of meningitis, the recent successful treatment of chorea by diphtheria antitoxin, or rather antidiphtheritic serum, deserves some attention.

A case is reported by Hamilton (*Med. Record*, January 16, 1906), from which we quote:

"A young man 20 years of age, of robust health, a night telegraph operator, had never been sick, but had become an inveterate tobacco smoker, and for the past year had not been getting nearly enough sleep. The family history is unusually good, except that an older brother has an involuntary muscular movement of the lower ex-

tremities when he attempts to walk. This came on after a severe illness in infancy, the nature of which I could not ascertain. His mind is also somewhat affected.

"I was called to see this young man, first mentioned, December 15, 1905. He was suffering from an attack of subacute rheumatism affecting his hands and right side mostly. The temperature was very moderate, and all trouble seemed to subside in a week. I did not see him again until January 30, 1906. He had at this time but little rheumatism, but was extremely nervous, and this condition, as I was informed by the family, was growing rapidly worse. His mind was quite unsettled also. I ordered him to his bed at once and placed him under the care of a trained nurse, and began to give him full doses of the fluid extract of cimicifuga and Fowler's solution of arsenic. The rheumatic symptoms subsided, but the chorea became rapidly worse, so that by February 15 his hands had to be tied together, and his feet and limbs had to be confined, at times it took the combined efforts of two attendants to keep him in bed and prevent him from injuring himself. At this time it took as much as 90 grains each of chloral hydrate and bromid of potassium in divided doses during a night to procure a few hours' sleep; or, which acted rather better, 40 grains each of sulphonal and trional. The delirium, which at first was moderate, was now a violent mania. It was evident that the man could not survive long under these conditions. On February 17, at 8 o'clock a.m., I gave him 3000 units of Alexandre's diphtheritic antitoxin; at 11 m. a decided reaction had come on, temperature 102° ; by 5 o'clock p.m. this had subsided, and the choreic symptoms were so much relieved that all restraint could be removed; delirium the same. Half the former dose of the hypnotics above mentioned procured a good rest the following night. By 8 o'clock a.m., February 18, there still being some choreic movements, I gave 2000 units of antoxin serum; in four hours there was some reaction; temperature, 100° . By the evening of this day all irregular muscular movements had subsided, and at this writing (March 20) have not returned."

Nihilism! Who is to Blame?

Imagine a fluid extract or tincture of belladonna, digitalis, aconite, nux vomica, etc., utterly or practically devoid of alkaloidal constituents, or what is the same thing, of medicinal value. Imagine a physician administering such preparations in a dozen or two dozen desperate cases without any favorable result—is it any wonder that such a physician becomes a therapeutic nihilist and sneers superciliously at the mention of drugs? Is he to blame for it?—*Am Jour. of Clin. Med.*

SURGICAL DIGEST.

DEPARTMENT EDITORS.

Dr. E. A. Babler, Surgery. Dr. Geo. Gellhorn, Obstetrics and Gynecology.
Dr. M. G. Gorin, General Surgery. Dr. Phil Hoffman, Orthopedic Surgery.
Dr. W. A. Shoemaker, Ophthalmology. Dr. H. J. Scherck, Genitourinary Surgery.
Dr. Selden Spencer, Otology. Dr. J. A. J. James, Rhinology and Laryngology.

Irrigation of the Abdominal Cavity.

Speaking from the standpoint of the operator, it is difficult, indeed, to say with any degree of certainty whether or not to irrigate in extensive peritoneal infection. Statistics are uncertain guides at best, though non irrigators claim the least mortality. One point all are agreed upon not to flush a localized walled off infection. Irrigation should be resorted to only in general peritonitis is the dictum of the advocates of irrigation. The mortality is dependent on the area infected and the virulence of the germ. The position taken by Vaughan (*J A M A*, March 17, 1906), viewing the subject from the standpoint of the bacteriologist, is worthy of careful consideration. To quote:

"It is a common clinical observation that shortly after irrigation of any abdominal abscess there is a noticeable rise in the temperature of the patient. This we ascribe to increased absorption, that is, we have not only washed out the debris of dead cells, but the protecting exudates covering the peritoneal surface have also suffered and new exudates must be formed before the toxic products are again separated from direct contact with the blood stream and lymphatic channels. A given organism will soon die out if kept in the same test-tube, but if new media be constantly added or frequent transplantation takes place its life may cover a greatly extended period.

"Realizing then that Nature's most efficient safeguard is in the formation of adhesions and that the percentage of cases in which these cause permanent after trouble is very small, let us consider how we can best aid in what Nature has failed to do. From a bacteriologic standpoint irrigation is entirely contraindicated. The surgeon will tell you when the abdomen is opened because of any infective process that drainage is the object sought. A large perforated rubber or glass tube furnishes the best means of obtaining the freest drainage, and this is frequently used and with most satisfactory results. However,

always in conjunction with this and sometimes alone, one or more gauze drains are inserted into the abdominal cavity. This is done because experience has taught the surgeon that his patient will do better and that recovery in a greater per cent is assured if the gauze drain be used. Given the choice between gauze and tube drainage and, I venture to say, by far the majority of surgeons would choose the gauze, and their reason would be that clinical experience proves that the mortality is far less when this form of drain is used. Now why should this be so? To my mind the answer is found by reverting again to that second factor in the causation of the mortality, namely, the area involved. At present we have no substance which is so effectual in the stimulation and formation of adhesions as sterile gauze. The gauze drain helps Nature to build up that safeguard which she is called on to supply, and hence helps to limit the area of infection. After three or four days this drain, which has played so useful a part in the limitation of the area involved, may become an absolute menace, for when the exudate has become dried upon its surface it plays the function more of a cork than a drain. But by this time the adhesions are well formed and the tube should be substituted for the gauze, since free drainage is now the essential in order that the pressure within the abscess may be as small as possible, and thus render slight the danger of infecting that portion of the abdomen without the abscess by rupture of the same.

"It is my opinion that the habit of irrigation in infectious conditions of the peritoneum is a pernicious one, absolutely without either scientific or clinical indorsement, and one which appears to be as difficult for the general surgeon to give up as anterior suspension or fixation has been for some gynecologists. Many of the leading surgeons have abandoned irrigation in peritonitis from appendiceal trouble, it is true, and their results alone should cause others to follow in their steps. Why should the same principle not be adopted in typhoid perforation, and, indeed, perforations from all other causes? I believe that if such a course were to be adopted the present mortality would be markedly reduced."

M. G. G.

The Three Tonsils.

Grimmer, Montreal, Canada, (*Massachusetts Medical Journal*, April, 1906) has discussed the two masses of glandular tissue found between the pillars of the fauces and that mass found in the vault of the pharynx. After describing these masses he says: "I am aware that I subject myself to criticism by the assertion that in the healthy throat there are virtually no tonsils. This opinion I entertain. The

'almond shaped organ,' etc., described by anatomists does not exist in a healthy throat, but is the result of a morbid process." The results of this morbid process are of different grades, so that we see small tonsils or seriously enlarged ones. As in children glandular structures are especially susceptible to disease so these morbid processes are more common in children.

The writer divides what is usually called the pharynx into two cavities, "differing materially in structure and function." He supports his position by calling attention to the character of the mucous membrane lining the upper half and that of the lower. That portion of the pharynx above the lower border of the soft palate is lined with a mucous membrane covered with columnar ciliated epithelia, and endowed with muciparous glands. The mucous membrane below this border is covered with pavement epithelia and is very scantily supplied with glands. Still further to sustain his contention that the upper portion belongs to the air-tract and the lower to the food-tract he says an inflammatory process in one of these regions seldom involves the other. He believes that this lower portion poorly supplied with glands is, therefore, surrounded by these three masses of glands called the tonsils and he believes the sole function of these glands to be to supply mucus to moisten and lubricate the lower pharynx. The only difference in structure in the pharyngeal and faucial tonsils is that the former contains less connective tissue and this is easily accounted for by their location, the faucial tonsils being subjected to much harsher use than the protected pharyngeal one. From a pathological standpoint the grouping of these three together is upheld, for the same morbid process that attacks one attacks the other. A list of these affections follows in which the author does not include quinsy, as he terms this an inflammation of the cellular tissues of the neighboring parts. The authors method of treatment of these various diseased conditions is also given.

S. S.

Rubber Gloves in Operations.

The use of rubber gloves in obstetrical and gynecological work is becoming generally recognized as offering special advantages when absolute asepsis is required. The gloves are usually sterilized by boiling them:

"Vincenzo Caliri (*Ann. di Ostet. e Gin.*, November, 1905) details his experiments as to the possibility of obtaining a perfect sterilization of rubber gloves to be used in operative procedures, by the means ordinarily used. He found that nearly all antiseptics excepting corrosive sublimate failed in this respect, and that broth cultures made after sterilization showed the presence of micro-organisms of various kinds. Alcohol was open to this objection, and at the same time injured the rubber, which became softened. The best method found was that of simple washing of the gloves with soap and water for some minutes, followed by the use of a 1 per cent solution of corrosive sublimate. The use of the autoclave gave perfect sterilization, but it greatly injured the strength of the glove. Soap and water and sublimate injured them least of all. They became in most processes permeable to bacteria to the hand as a result of changes in the physical composition of the rubber. The author also found that the gloves lessened the accuracy of touch in the operator. He concludes that the operator need not have the ends of the fingers covered by the gloves, while it is a distinct advantage to have the forearms and the rest of the hand covered, the last two phalanges being left exposed. The other persons assisting should wear gloves that cover the entire forearm and hand."—*American Journal of Obstetrics*.

Pain and Swelling of the Leg.

The *American Journal of Surgery* offers some surgical suggestions concerning pain and swelling of the leg:

"A hematoma may be produced in the calf muscles by direct or indirect violence that the patient may pay little attention to at the time or even fail to recall."

The blood vessels in the aged become easily ruptured and hemorrhage into muscles anywhere may occur:

"Swelling of the leg, associated with febrile disturbances, may be produced by hematogenous infection of a hematoma of the calf muscles. Such a condition may somewhat simulate osteomyelitis or other serious condition. It may be differentiated, however, by the location of the greatest tenderness and swelling and by a careful inquiry into the history. If no distinct traumatism is recalled the condition of the patient's arteries may nevertheless suggest the possibility of the occurrence of such a hematoma."

Hueter asserted that cramps in the calf are frequently caused by varicose veins in the muscles, now we recognize other causes:

"Persistent pains in the leg may be due to obliterating endarteritis. This occurs occasionally even in young men and often goes on to the production of gangrene. Both syphilis and excessive smoking are suspected as etiological factors."

But every pain in the calf should not be attributed to local disease for—"Flat-foot is another cause of pains in the leg or thigh."

It is common to apply some cooling applications to contusions, and astringent solutions seem very helpful. A good suggestion is the following:

"Wet dressings, especially the very useful Burow's solution of aluminum acetate, when applied to the hand or foot, usually cause maceration and whitening of the skin, which is apt to alarm the patient. The addition to the solution of one-fourth its bulk of glycerin or alcohol, will obviate this unsightly maceration."

Adenoids.

Hermas Stolte, Milwaukee (*Medical Fortnightly*) With our present knowledge of the evil effects of adenoids and the dangers due to their presence, the writer of this article is led to exclaim, in commenting on the neglect of some physicians and parents: "Are we not moved by pity and indignation that these things should go on for years without medical suggestion of the proper kind until all these conditions become irreparable!" He asks if these children, in whom the diagnosis can be made at a glance, have never been seen by a physician. Unfortunately, in many instances where a consultation has been had, tonics and change of climate have been suggested when the one needful bit of advice has been withheld, that is that the growth be removed. Such neglect is due either to lack of intelligence or carelessness. Erroneous suggestions are so often given, magnifying the danger of the operation, stating that the adenoids would gradually disappear and also that if removed they would recur. A large growth of adenoids never shrinks of itself to the extent that it no longer produces the detrimental influences, especially with regard to the nose and pharynx. While waiting for this disappearance lasting damage of a serious nature may be done.

As a cure he thinks that breathing exercises are useless; under this treatment the adenoids flourish. After the removal of the growth

the breathing exercises may be of great benefit to develop the lungs and improve the general health.

In regard to recurrence after operation he says, that after 1890, the operation became the rage and everybody performed it, in many cases where it was not indicated at all, and most often with improper technic. Slipshod performance has brought discredit on the operation. In regard to the question of operation he divides adenoids into three classes—1, permanent; 2, periodical or transitory, and 3, no symptoms. The first class, which is typical, embraces those cases of the richest growth, pressing on the Eustachian tube, half filling the postnasal space and causing obstruction to those passages, with the consequent symptoms. In this class the operation is positively indicated, it makes no difference how young the child is. The earlier the removal the better.

The great dangers of allowing these growths to remain are now enumerated, and passing on to the second class he states that in these cases the question is a more difficult one. He says, "to be a good and impartial adviser we should resort to a thorough digital examination and to an exact investigation of the history of the case." If we find small adenoids, a tendency to repeated attacks of colds, persistent attacks of earache, enlarged glands, a family history of tuberculosis or symptoms of like seriousness, we should advise operation.

As regards non-suppurative otitis of the subacute variety, he says that if these attacks are infrequent and if the child enjoys good health in the meantime, it is advisable to postpone the operation.

Of the third class, those that produce no symptoms he advises against removal.

In regard to reflex neuroses, such as asthma, epilepsy, enuresis etc., the author does not believe them due to adenoids. He does not believe in a diagnosis made from appearance but says that before operation a careful examination should always be made.

As to the operation he advises, in most all cases, general anesthesia and the recumbent position with the patient lying on his left side, the table being raised at his feet. In this way blood flows out of the mouth, none getting into the larynx and the field of operation is clear. He always uses chloroform, carefully producing a deep anesthesia. Thoroughness in the operation is essential, "especially not neglecting the upper arches of the choanæ of Rosenmüller's fossæ

behind the Eustachian tube lips." The operation performed in a thorough manner is a difficult one. The importance of postoperative treatment is dwelt upon by the author. After three days have elapsed he removes any small particles that may remain under cocain anesthesia (?). For the after-treatment he advises injections (not syringings), in case of persistent slight hemorrhage, of a normal salt solution containing 2 per cent dioxogen. In case of pus formation he uses four or five drops of a 5 per cent argyrol solution in the nostrils. In some cases a simple contrivance to induce mouth breathing will be necessary. Breathing exercises, cold sponging and plenty of fresh air is advised.

S S.

The Early Diagnosis of Malignant Tumors.

Recent literature has abounded in a wealth of suggestions in regard to the early diagnosis of tuberculosis; but are not malignant tumors also in this category where an early appreciation of this nature is absolutely essential?

Landry (New Orleans *Med. and Surg. Jour.*, June, 1906) read a paper on this subject not long ago and referred especially to cancer of the breast, uterus and stomach. To quote:

"1. Rapid growth is one of the main clinical features of malignancy and should of itself enable us to make a positive diagnosis. It is safe to assert that all rapidly-growing tumors are malignant, and that their degree of malignancy is in direct proportion to their rapidity of growth. The rapidly-enlarging nodule in the breast, the small papilloma of the lip which suddenly takes on a proliferating and ulcerating aspect, the bone tumor showing an undue activity, should all be viewed with suspicion regardless of other signs or symptoms. It is true, however, that some types of epithelial carcinoma are at some stage of development of extremely slow growth and even latent, but these are rare, and their existence would not affect our general law that all rapidly-growing tumors, exclusive of inflammatory swellings, should be regarded as malignant. Tenderness, very marked in an inflammatory swelling and absent in malignant tumors, is an important feature in differentiating the two affections.

"2. The tendency of malignant tumors to invade surrounding tissues and to recur after removal is another characteristic. Benign tumors are always encapsulated, and if the enveloping capsule is entirely removed, there will be no recurrence. Malignant tumors, al-

though they may seem circumscribed, always show a tendency to invade surrounding tissues, and unless removed early before general or even regional infection occurs, and thoroughly extending incisions wide of tumor into apparently healthy tissue, recurrence will be certain. This tendency to invade surrounding tissue in malignant tumors is sponsor for another characteristic, immobility. It is readily appreciated that a tumor which is pervading an organ, diffusing itself rapidly into surrounding structures, should form one mass with that organ. This is typically seen in cancer of the breast, where the tumor and the gland soon form one whole mass, adherent to the skin and thoracic walls.

"3. Pain, spontaneous and of a lancinating and paroxysmal character, with nocturnal exacerbations, was for a long time regarded as a distinctive characteristic of malignancy, but is misleading, and no undue weight should be attached to its presence or absence. Pain is not characteristic of early cancer; it may be present and it may not; it is at times absent even in advanced cases. Besides, pain may be severe in benign tumors. Senn asserts that, in his experience, adenoma of the breast is much more painful than early cancer of the same size. We can all recall instances where the absence of pain was a prominent clinical feature of cancer, although far advanced.

"4. Retraction of the nipple, so often referred to as typical of the breast should not be looked upon as a very important sign. It may or may not be present. Its presence argues in favor of malignancy, although it obtains in about 5 per cent of chronic inflammatory conditions, but too much importance should not be attached to its absence. In cancers of the periphery of the breast it may not occur until late, and in very rapidly growing tumors it may not be present at all.

"Finally, redness, edema of the skin, the development of nodules which run together, producing a hard brawny patch, eventually ulcerating, the involvement of the lymphatic glands and the development of the characteristic cachexia, are all late symptoms, which should not be awaited for before having recourse to radical treatment."

Sudden Death After Labor.

McDaniel (*Medical World*, June, 1906) reports a case of mysterious death after labor. The etiology was obscure, and certainly from the facts given even a wild guess could not be hazarded. Meigs originated the theory that a partial detachment of the placenta during labor with weakness of the heart leads to the formation of large soft clots in the uterine sinuses which may become detached by a subse-

quent powerful uterine contraction and emboli lodge in the heart and pulmonary artery. The entrance of air into the circulation through the uterine sinuses has not received recent confirmation as a cause of sudden death. Shock, it seems, may be the cause of death after labor, as after any surgical operation, but its occurrence is doubted by Williams. Lusk, about twenty years ago (*Journal A.M.A.*) wrote a fine article on this subject and collated reported cases.

Rupture of the genital canal may give rise to slight symptoms at the time but end in death from subsequent hemorrhage.

In all cases of sudden death a very accurate knowledge of the woman's previous condition is necessary. For women may suffer from chronic heart disease, aneurism, pancreatitis, etc., which may terminate fatally during or immediately after labor.

YESTERDAY AND TODAY.

DEPARTMENT EDITORS.

Dr. E. A. Babler, Surgery.

Dr. Adrian Bleyer, Medicine.

Epididymitis.

Our forefathers were fully appreciative of the fact that acute epididymitis was frequently due to gonorrheal infection; they knew that the infected tissues needed support. Concerning the affection, Abernathy thus spoke:

"A swelled testicle is the most frequent concomitant or consequence of gonorrhea. There is nothing better for the purpose of relieving it than tepid bathing of the perineum and genitals, as by flannels wrung out of warm water; or by local tepid bath, and I consider there is nothing better than the bread and water poultice. The weight of the parts should be taken off, by affording it a comfortable degree of support, and a proper bag truss is a most excellent thing; but I rarely see a good suspension bandage now a days, they are for introducing new fashions upon all occasions, and they have introduced new shaped trusses for this purpose. The bag of the truss ought to be attached to a circular belt by two straps, with buckles, so that they might be raised to a comfortable degree, and no farther. There is frequently some little febrile state induced, and then you give some James's

powders, and take care to keep the bowels open; let the patient remain in an horizontal position, and he will soon get well.

"As to leeches, I say nothing of them; I do not think that they do much good; the disease appears to continue for a definite time, and then goes away if you attend to the circumstances I have just named. This is all that I am inclined to do; and I say, that although people get better, they should not go about within a certain time, for if they do the disease will return."

If Abernathy was with us today he would say:

"Try to prevent epididymitis in cases of gonorrhea by advocating the prompt use of a suspensory bandage; by warning the patient against sexual relations, strains, jars, etc.; and by careful attention to the urethral douche. Just as soon as you find the epididymitis swollen and tender, employ the adhesive plaster bandage. By adhering to these instructions you will save your patients many hours of pain and valuable time."

Today, we do not rely upon ice packs, elevation of the scrotum, the recumbent posture, and opium. Our German friends do cling to this form of treatment. In fact, Bramann advocates puncture in cases where there is great effusion into the tunica vaginalis. In America we resort to strapping at the first intimation of disease. By so doing pain and loss of time are obviated. I recall several very severe cases of epididymitis in which the testicles reached the size of a large orange; prompt application of the adhesive plaster dressing afforded prompt relief. I might add that it is very essential that the dressing be removed as soon as the swelling subsides; another adhesive dressing must be immediately applied. A suspensory must be worn. In many instances it is not necessary that the patient be confined to bed.

E. A. B.

Taxis.

Yesterday—a century ago—practitioners resorted to taxis because it seemed to offer the patient a better chance than surgical intervention. It is more than probable that the medical man was frequently forcibly impressed with the distressing results of taxis. At length the custom became so universal and the effects so disastrous that the press rose up in arms. In the editorial columns of the *Lancet* for March, 1825, the following very impressive and very important words are found:

"Let us suppose that a patient is brought to —— Hospital with a strangulated hernia; and it will generally happen (19 out of 20 times) that a practitioner in the neighborhood of his residence, has already assiduously employed taxis, but having failed in reducing it, has sent the patient to the Hospital to undergo the operation. Well, is the operation performed?—Stay a little. No, the patient is placed in bed, and the House Surgeon proceeds to employ the taxis; and, now and then a dresser or two are also favored with a spell. Well, the hernia is not reduced, and the symptoms become more and more urgent. The patient is placed in the bath and bled, and another half-hour expended on the taxis—hernia as big as ever, but rather softer, as they sometimes say, which is no wonder. A note is next sent to the Surgeon of the week, who sometimes attends directly, at other times when it may suit his convenience. The kneading process is again employed, and again unsuccessful. What next? The bath again, and the same process continued. Well! What then?—After a lapse of several hours, a consultation, and the taxis by three surgeons. After this comes the operation, by which time the patient is probably within forty hours or so of his death. * * *."

Is it possible that we find practitioners resorting to persistent taxis today? Surely sufficient evidence has been adduced to teach each of us the dangers of the pernicious practice. I am certain that it is far better to subject every case of hernia to radical operation before strangulation takes place; there is no reason why a patient should be advised to wear a truss (the deceptive thing!) when his condition does not contraindicate surgical intervention. The day of doubt and delay is fast passing. Radical cure of hernia is a present-day fact.

But what about taxis? I am in favor of operating just as soon as the patient's attempt to reduce the hernia has been unsuccessful, especially if hot fomentations and the Trendelenburg posture for an hour proves unavailing. The medical attendant is not justified in making repeated taxis. Repeated taxis, or taxis improperly performed subjects the patient to dangers which far exceeds those attendant upon proper surgical intervention. Just now I recall a case in which taxis reduced the hernia en masse. We may then say that proper treatment of a hernia obviates the dangers of strangulation; in those cases in which operation has been refused and strangulation occurs, operation is called for, provided the patient has not been able to reduce it; the case becomes more promptly operative if the medical attendant finds

his gentle attempt unsuccessful, and if hot fomentations fail to bring success within an hour. Only too often do these cases of strangulated hernia reach the surgeon at an hour when the persistent feculent vomiting, the cold, clammy skin, the distressed expression, the intermittent pulse, and the gangrenous coil of intestine tell the sad tale of injudicious treatment.

I repeat, taxis is a very dangerous and a very unfatisfactory measure. In fact, it is far more dangerous than many practitioners realize.

E. A. B.

Cancer of the Lower Lip.

It is a conceded fact that early investigators were very close observers; they paid special attention to the early clinical picture; they didn't jump at conclusions. The early literature demonstrates that experience had taught our forefathers the necessities of early removal of suspicious growths.

In one of the first volumes of the *Lancet* appears the following:

"On the 25th, A. B., in Cornelius Ward, was operated upon for cancer of the lower lip; he had been troubled with it upwards of three years. It first commenced as a small pimple; he scratched it, and a blister formed; from that time it has been constantly getting more painful, and extending along the lip until it occupied an inch or more of the surface of the latter. Mr. Key commenced by making an incision from the left angle of the mouth, carrying it obliquely downward and inward. A similar incision was then made on the opposite side, terminating, however, at the same point as the first, thus forming an acute angle. After the parts were removed, a ligature was applied upon each inferior labial artery; and the edges of the wound brought together by means of three sutures, assisted by a piece of adhesive plaster, which, however, extended for some distance on each side to prevent their retraction, and the consequent gaping of the wound."

This simple removal of a V shaped wedge gave good results in many instances, while in others the operation seemed to but aggravate the process.

Very recently, Heimann has found that one-third of all cases of cancer involve the face; and that of these latter the lip is the most frequent site. We very seldom find cancer of the lower lip in the female. Today, we do not know any more concerning the etiology of

cancer than did the student two hundred years ago. Of late the Roentgen rays have been found quite efficient in these cases. A few evenings ago Dr. Joseph Grindon presented reports of successful cases at the St. Louis Medical Society. Dr. Grindon stated that the glandular involvement was probably inflammatory since the latter disappeared after the cancer of the lip was healed. Dr. Grindon's contention is of great import. Handley has shown that cancer is transmitted by the lymph channels. Werthein has stated that cancer in the cellular tissue is not a metastasis, but a direct outgrowth from the primary area. It would thus seem true that the diseased lymph vessels are in reality the so-called "roots" of a cancerous growth.

Just how the Roentgen rays destroy the cancer we do not know. In fact, we do not know much about the rays themselves. The future holds much in store for the careful worker in this field of therapeutics.

From the point of the surgeon—in fact, from every standpoint—it is very essential that a suspicious tumor be removed at the earliest possible moment. The efficacy of the removal of the wedge of diseased tissue depends upon the character of the growth, and whether or not the corresponding lymph glands and channels are involved. In some instances the deep glands are involved early. At times the diseased glands may be difficult to detect by palpation alone.

In every cancer of the lip all factors must be carefully considered. In the early cases simple removal of the diseased part of the lip, followed by subsequent exposures to the rays, will be found sufficient. In later cases the lip must be freely removed, the glands of the neck removed after the method employed by Butler, in cases of cancer of the tongue, and the parts subsequently exposed to the rays. Whenever the condition of the patient forbids the radical removal of the palpable diseased glands, operation is not satisfactory. Without question, many of the recurrences in cancer of the lip are due to failure to remove the diseased glands of the neck. Only too often are we content to remove the diseased part of the lip; surely experience has clearly shown the necessity of more thorough work. Let us examine our cases more closely, and we will more often remove the diseased lymph nodes.

E. A. B.

Drugs That Fail.

When physicians are in a hurry to report the cure of diseases by some new remedy, the experience of Dr. Krocak, twenty-five years ago, should be cited. This physician was assistant to the celebrated Dr. Rokitsky and he published the history of three cases of advanced phthisis in which patients with large cavities, high fever and great weakness were treated by inhalations of a 5 per cent solution of sodium benzoate. All the cases recovered. This therapeutic means was at once extensively tried and *Wiener Med. Woch.* soon announced that not even the slightest favorable result was obtained by this means.

This experience is repeated every few years, some one reports the beneficial results of a certain treatment based on one or two trials only. These superficial therapeutic tests keep alive Christian Science, osteopathy and nostrums. But, unfortunately, even physicians constantly fall into this error. The rule should be, especially in regard to drugs, that no cases should be published unless the number is considerable or some kind of control is established so that the treated and untreated cases can be compared.

In recent times, the number of therapeutic remedies offered on insufficient grounds are very numerous. We can refer to a few only, some of which, like the vegetable juice treatment of tuberculosis must be considered almost ludicrous.

Diphtheria antitoxin has been highly recommended in sepsis and pneumonia.

Serum from vaccinated goats has been termed a specific in pertussis. So also has aspirin, phenacetin and many other drugs. Antipyrin is probably the best of the many drugs used for the purpose of diminishing the number of paroxysms.

The cadodylic acid, highly extolled by many French writers, has not received much favorable comment by other experimenters.

Gelatin, given hypodermatically for hemorrhages, has fallen into disuse because of the liability to carry the tetanus bacillus, and its unreliability of action.

Such preparations as lecethin, glycogen, cerebrin, ovarin, etc., while highly extolled by certain writers do not, as yet, need serious attention.

BOOK REVIEWS.

A Textbook of Pharmacology and Therapeutics,

Or the Action of Drugs in Health and Disease. By Arthur R. Cushny, M.A., M.D. (Aberd.), Professor of Pharmacology in the University Medical College, London, England; formerly Professor of Materia Medica and Therapeutics in the University of Michigan; Thompson Fellow in the University of Aberdeen, and Assistant in the Pharmacological Institute of the University of Strassburg. Lea Brothers & Co., New York and Philadelphia.

This edition, which is the fourth in seven years, has been made necessary by the revision of the United States Pharmacopeia. Cushny's work is one of the best and most concise published. It tells the reader just what he wants to find. The classification adopted by Cushny is that of Buchheim and Schmiedeberg, with slight alterations. The writer thinks that the division into organic and inorganic drugs may, perhaps, have to be abandoned in the future. Special consideration is given to the recent findings concerning the action of chloroform and its dangers, as to wood-alcohol. A few of the important and valuable items found in the text are the following: In carbolic acid poisoning, alcohol only serves to dilute the the poison and does not form any combination with it, hence we remove the mixture with the stomach tube; lime salts are quite incapable of improving either osteomalacia or rickets; in acute arsenic poisoning, experiments show that the well-known antidotes are useless and that reliance is to be placed on repeated and copious lavage only; in phosphorous poisoning, oil of turpentine is valueless (sulphate of copper is recommended); the chief interest in lead, from a medical point of view, lies in the frequency with which it gives rise to chronic poisoning and in the diversity of symptoms presented in that condition. This work is to be highly commended.

The publishers deserve credit for the neat appearance, good quality of paper, and the clearness of type, etc.

The Examination of the Function of the Intestines by Means of the Test-Diet.

Its Application in Medical Practice and its Diagnostic and Therapeutic Value. By Prof. Dr. Adolf Schmidt, Physician-in-chief to the City Hospital Friedrichstadt in Dresden. Authorized translation from the latest German edition, by Charles D. Aaron, M.D., Professor of Diseases of the Stomach and Intestines in the Detroit Postgraduate School of Medicine; Clinical Professor of Gastroenterology in the Detroit College of Medicine; Consulting Gastroenterologist to Harper Hospital, etc. With a frontispiece plate in colors. Crown octavo, 91 pages, extra cloth, \$1.00, net. F. A. Davis Company, Publishers, Philadelphia.

The gradual improvement in the diagnostic methods for the alimentary canal is one of the distinct achievements of modern times. Everywhere we find the examination of function as the fundamental principle of diagnostics. The intestines have hitherto escaped the searching inquiries directed to other organs, e.g., the stomach.

Now, Dr. Schmidt offers us a practical method of studying the function of the intestine. In brief, a test-diet is given generally for three days, then the feces are examined. We imagine that the milk supply for the test-diet would need perfect supervision as to its cleanliness. The tests are simple and, no doubt, will prove to be very helpful in practice. We are not sure the examination of feces will ever become very popular, except in rare cases; no practitioner whose practice embraces gastrointestinal disease should fail to familiarize himself with the contents of this book.

The International Medical Annual.

A Yearbook of Treatment and Practitioners' Index. By numerous contributors. Twenty-fourth year (1906). Price \$3.00. E. B. Treat & Company, New York.

This issue of the well-known Annual compares favorably with the preceding volumes. The practitioner will find in a concise form the recent progress in therapeutics and diagnosis. Prophylaxis, diatetics and sanitation receive due consideration. Every physician who reads as well as observes should have the Annual.

In reading this book one is struck by the diminishing attention that is given to drugs, and the increased space to physical therapy, including surgery. The writer of the introduction admits that the past year has been uneventful from a therapeutic point of view.

Several articles deserve special mention for completeness or other excellence. Cancer of the Breast, by Priestly Leuch, with its five illustrations, is a fine article, describing as it does minutely the radical operation. Radioactivity and electrotherapeutics gives a complete summary of recent improvements. The articles on diphtheria, diabetes and diarrhea, while offering nothing new, emphasizes special points. The section on diseases of the ear is elaborately illustrated. Much attention is given to diseases of the heart and kidneys. The article on insanity, by Dr. Easterbrood, shows what interest is taken in psychic diseases at present.

In fact, we have merely touched upon the numerous fine practical articles in this valuable volume.

Diseases of Metabolism and Nutrition.

Part VII.—Diabetes Mellitus. By Carl von Noorden, M.D. Price \$1.50. E. B. Treat & Co., New York. 1906.

This is another authoritative monograph by von Noorden. It is certainly a satisfactory one and practical. For instance, did you know that sugar appears in the urine of some individuals after drinking beer? The danger of diagnosing diabetes where there is none is considerable and in all doubtful cases the Orcein reaction characteristic of the pentoses should be made. On the other hand, von Noorden cautions against taking only the early morning urine as it may be free from sugar, while that passed through the day, after taking food, contains sugar.

There is a valuable appendix giving food tables and other helps. Every practitioner should have this treatise.

ST. LOUIS

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EDITORIAL COMMENT.

Pneumococci and the Different Seasons.

It is interesting to note that the pneumococci have been demonstrated in increased number and virulence in the saliva of healthy persons in the winter months—December and January. Again the virulence of this germ seems to become lessened when the warm weather approaches. The relation of pneumonia to the seasonal virulence of the pneumococcus may yet be established and, consequently, less importance will be attached to physical predisposition. After all, it may not be the number in the saliva that do the harm, but the virulent bacilli that are ejected into the air by coughing and sneezing.

Spirocheta Pallida in Tertiary Syphilis.

Now, since the spirocheta pallida has been discovered in tertiary syphilitic lesions, although in diminished numbers, the relationship of this organism to the causation of syphilis has really received additional support. This follows the experimental researches of Neisser, who demonstrated on apes that the gumma, contrary to the old ideas conceived on clinical grounds, was really contagious.

It is strange that the old inoculation experiments of Diday, who made sixteen inoculations with blood from patients with late syphilis with negative results, and of Finger, who utilized the secretion from

gummata in inoculating healthy persons also with negative results, should now be overthrown by more accurate work. It was known, however, that these views had to be taken with reservations, since a few cases of infections from late lesions had been reported. One is impressed with the inadequate accuracy of many clinical data, especially concerning syphilis.

Acute Thyroidism.

Sometimes we forget that Graves' disease may occur acutely; that is, arise suddenly during any period of life. As a rule, the disease occurs in young girls who present a peculiar syndrome only two well known. But the physician must remember this disease in all cases of tachycardia, loss in weight, tremor and gastric symptoms. There may or may not be a thyroid tumor present. Nervous and hysterical symptoms are often due to acute thyroidism. The recognition of this syndrome is very necessary from a therapeutic standpoint, especially since antithyroid extracts are now prepared which show a very satisfactory efficiency in the treatment of Graves' disease.

Night the Time for Medical Treatment.

The French physician, who recently delivered an address to the Therapeutic Society in Paris and who presented an array of arguments for the night-time treatment of certain diseases, must be a lover of late hours. Most commonly the modern physician tries to get away from that old practice of working both day and night, but the French savant contends that our medicines are more efficacious when given at night. The nocturnal administration of drugs acts more powerfully since absorption is prompt and excretion delayed.

We can not grow very enthusiastic over this method. While there are some diseases which show their severest symptoms during the night (as asthma) the body, as a rule, demands rest during this time and objects to being aroused every half hour to take some medication. With very few exceptions our modern method will be found best. Few drugs are so quickly excreted that their therapeutic action can not be obtained; and medication during the day, with one or two doses at night will be found satisfactory. Of course, in exhausting

diseases the depression which is commonly observed toward the morning must be guarded against by the administration of food and stimulants.

Self-Restraint in the Practice of Surgery.

The editor, being a physician, will be pardoned if he occasionally criticises in sharp terms the lack of restraint manifested by some surgeons, and now we can not refrain from calling attention to a timely article on the above subject by Stimson (*Am. Jour. Med. Sci.*, June, 1906). This surgeon admits that "the warning comes from an older surgery, whose pains, mutilations and disasters have been greatly reduced by its successors, yet it finds a new appropriateness in the very defects of the qualities of that successor, in the vast expansion of its operative interference, in the ease and safety with which that interference can be carried through. and the consequent ready resort to the knife."

The common argument that we can not foretell what may happen in a given case of appendicitis, ulcer of the stomach or gallstones, should not be sufficient argument for surgical intervention. As a rule we can not foretell what will happen in spite of the operation. Each individual case must be carefully studied on its own bearings, and no iron-clad surgical rule should be laid down.

It is proper, therefore, for the physician to restrain the surgeon, since, as Stimson declares, it is our young surgeons, in whom courage and hope are so high, that need some restraint. The physician must learn indications and contraindications for operations, and knowing that the latter counterbalance the former, he should not yield to the desire of the surgeon.

Typhoid Fever.

Now that the conclusion has been reached that the typhoid bacillus is present in the circulating blood in every case of typhoid fever in some part of its course and that relapses are associated with the re-invasion of the blood by the organism, efforts to abort the disease by powerful intestinal antiseptics will lose much of the strenuous prominence given them since the days of Bouchard. It emphasizes, how-

ever, the danger of the urine in these patients, since many of the bacteria are excreted or pass through the kidneys. The practitioner should see that the urine is not thrown into the back yard to infect the children who play there. There is still much criminal carelessness in the world.

Nature.

Physicians are still disputing concerning the advisability of allowing Nature to perform a cure unaided in certain diseases; and to be truthful, there is much room for dispute. Some practitioners work and see results, they have little time for philosophical analysis; hence, with the layman, an unconscious conviction that curing disease is a definite and successful art, becomes a part of their guiding precepts. On the other hand, he that does nothing without an elaborate reason why, will find Nature a useful friend. Disputes are, therefore, the natural results of two different temperaments, and serve a useful purpose in the progress of medicine.

Collapse of the Lung.

Macewen, in the Cavendish Lecture (*British Medical Journal*, July 7, 1906), considers that very important subject concerning which physiologists and surgeons are still disputing, namely, the admission of air into the pleural cavity and the collapse of the lung. He maintains that this is prevented in a great measure by cohesion of the visceral and parietal layers of the pleura; in fact, he has taught for years that molecular cohesion and capillarity are the principal forces that maintain the expansion of the lung and when collapse takes place these forces can be utilized in order to produce expansion of the lung.

This is a very important point and has a very important bearing on the surgery of the lung. It is interesting to note that it is contrary to the teaching of modern physiologists.

"If the pleural cavity be opened by a perforation from without or by a wound of the lungs from within, the elasticity of the lungs causes them to collapse, and there arises an air-space between the outer surface of the lungs and the inner surface of the thorax."—Landois.

An opening into each pleural cavity need not be necessarily fatal

if the pleura are healthy and a good quantity of serous fluid is present, since the capillarity may be strong enough to oppose the elasticity of the pulmonary tissue.

Squill as a Heart Stimulant.

The latest report from the pharmacologists is that squill is a more prompt and a more powerful heart stimulant than digitalis or strophanthus. Squill and digitalis are equal in toxicity but strophanthus is ten times as toxic. Squill differs from digitalis and strophanthus in that it increases the force of contraction to a considerable greater extent than these drugs, and slows the heart more than either drug.

The clinician usually classifies squills with the expectorants and emetics, and while it has for some time been classed among the digitalis group of drugs, it is new to recommend it as a heart stimulant and vasoconstrictor when prompt results are desired. We are not sure that it might be tried in certain diseases where the blood pressure is very low.

Kava-Kava as an Anesthetic.

Recently, in several minor operations on the penis, says Bowen, of Knoxville, Tenn., (*Surgical Clinic*) I have used the fluid extract of kava-kava as a local anesthetic with great satisfaction. Two meatotomies were absolutely without sensation and there was no blanching of the tissue and, consequently, no secondary hemorrhage. One small fistula was mended without sensation, and in one case I injected the agent deep into the perineum for an urethrotomy, completing the operation with comparatively little pain to the patient. In sensitive urethras an injection of 4 to 8 per cent, held in for a few moments, allowed free instrumentation without pain. The anesthesia is long lasting (from six to eight hours) and is very complete.

The only drawback to the use of kava-kava is that the solution must be alcoholic and when injected hypodermatically the pain is rather sharp, it immediately passes away, however, and injections into the urethra, my patients state, do not hurt more than many of the solutions given them to cure "clap."

LEADING ARTICLES.

The Symptomatology of Appendicitis.

Half of a century previous to the classical memoir of Reginald Fitz the symptoms of appendicitis had been described quite accurately by the early German writers, although, it must be admitted that the latter were not cognizant that the appendix was the true seat of the trouble—they were utterly ignorant of the fact that the clinical manifestations which they described as indicative of “typhlitis” and “perityphlitis” were but the appealing signals of a distorted, disabled appendix for prompt and efficient assistance. The mine of information upon the subject as presented by Fitz deserves special consideration. His assertion that variation in the length, patency, and position of the appendix were of obvious importance in explaining many of the differences in the clinical histories, has received universal approbation.

The symptoms of appendicitis are variable and, quite often, very deceiving. It is true that appendicitis is of such frequent occurrence that at least a few of its clinical manifestations are known to every housewife. Every surgeon of even moderate experience has very frequently been forcibly impressed with the fact that the clinical phenomena are not a reliable criterion of the pathological changes that are occurring in the appendical tissues. How often has the practitioner found that the symptoms accompanying certain pathological changes in one instance, are practically wanting in another! The presented picture may be indicative of a mild attack, and yet celiotomy reveals a gangrenous, or ready-to-rupture appendix; in other instances the symptoms lead the surgeon to suspect a very grave condition, but upon exposing the organ he finds but slight pathological changes. It has been said that appendicitis is a very treacherous disease, and experience corroborates the assertion. Dieulafoy, however, has contended that “no one should die of appendicitis,” and surgeons of wide experience concur, with little reserve, with him. Clinically, it is preferable to describe appendicitis under the two classes—acute and chronic.

The more important, the more constant, and the more prominent symptoms of appendicitis are described below.

PAIN.

Pain is the earliest and most valuable symptom. It is the *one* symptom that appears at an hour sufficiently early to save the life of the individual. Pain is the most constant and the most prominent symptom of appendicitis. The initial pain may appear suddenly and be excruciating in character. Cases have been recorded in which the pain appeared as suddenly as a bolt of lightning from a clear sky, and so excruciating that the patient collapsed. In by far the greater proportion of the cases, however, the patient complains of paroxysmal, cramp like pain in the epigastric or umbilical region; there may be a feeling of lassitude, a complaint of headache and digestive disorders for two or three days previous to the onset of pain in the abdomen. In many of the acute cases, the pain of onset will be referred to the testicle, the rectum, the penis, or perhaps, to the left inguinal region. Within a few hours, however, the diffuse pain of onset becomes more localized in the region of the appendix; the paroxysms become more or less continuous, but less severe. An acute exacerbation of pain may be provoked by any movements involving the psoas muscle, hence, the patient lies as quiet as possible and with the right leg flexed. Pain of a severe character in the right inguinal region may be induced by sneezing or an attack of coughing. In simple cases this secondary pain usually subsides within twenty four to forty-eight hours; it may disappear in three or four hours. Distinctly localized pain points to a localized infection. If, however, the local infection increases in severity, the pain becomes more frequent and more severe. If the patient complains of sudden, sharp pain after a temporary subsidence, it is very probable that perforation has taken place; at times it signifies a beginning general infection. When the pain ceases suddenly, and without an accompanying improvement in the general condition of the patient, it is a very grave sign; it usually indicates gangrene, the rupture of a pus sac, or virulent infection. If the pain again becomes general it almost invariably signifies a spreading peritonitis. In cases of general toxemia the pain is not always severe—in fact it may be absent.

A characteristic feature of the pain in appendicitis is its mode of onset and its subsequent localization in the region of the diseased appendix. The ability of the patient to stand pain is best judged by the family physician.

The initial colicky pain in appendicitis has been attributed to the distention with flatus of the inflamed cecal area. The patient feels easier after the passage of flatus. Christoneaous has called attention to the resemblance of the symptoms of appendicitis to those of cecal colic. The secondary localization of the pain in the region of the diseased appendix has been considered due to an involvement of the neighboring peritoneum. Bladder symptoms are quite prominent when the appendix lies in contact with, or becomes attached to, the bladder.

In chronic appendicitis the pain may be as sudden and as excruciating as in acute cases. As a rule, however, the pain is regarded as due to digestive disorders, and is of gradual onset. In many of the cases the pain is localized in the region of the appendix from the moment of onset. There are cases in which the patient is more or less constantly complaining of twinges of pain in the right inguinal region—due to a chronically inflamed appendix. An adherent appendix frequently causes distressing symptoms.

TENDERNESS.

Point-tenderness is a very valuable symptom when associated with pain in the right inguinal region. During an early part of an attack of appendicitis the palpating hand will find that there is more or less diffuse tenderness over the entire abdomen; within a few hours, however, an area "as sore as a boil" will be found in the region of the diseased appendix. The area of point-tenderness does not always correspond to the area pointed out by McBurney; in many instances it will be found just above or just below it. Point tenderness is of more significance than the condition of the pulse; it is a more reliable symptom than the presence or absence of fever. Maurice Richardson has pointed out the fact that exquisite tenderness is not easily feigned or exaggerated by neurotic subjects, if the patient's attention be diverted while the palpating hand gently passes over the abdomen. In many instances localized pain and point-tenderness will be the two principal symptoms present at the time of the consultant's visit. In chronic cases this is especially true; the area of point-tenderness varies according to the location of the appendix.

RIGIDITY

Muscular rigidity and sudden severe pain in the right inguinal

region are the two most constant and most valuable signs of appendicitis. The three cardinal symptoms are pain, point-tenderness and muscular rigidity. The physician's idea of muscular rigidity is entirely different from that held by the surgeon. The right rectus does not have to be as rigid as a board before rigidity can be detected. In fact rigidity confined to a small area is of more diagnostic value than when the entire muscle is rigid. Muscular rigidity usually appears very early. It is best elicited by placing the hand perfectly flat upon the abdomen. At first, both recti may be tense, but in a little while the right rectus will be found to be the more rigid. Rigidity over the area of point-tenderness only, is of special significance. If the case progresses favorably the muscular rigidity gradually disappears. In gangrenous appendicitis muscular rigidity may be slight or entirely absent. In chronic appendicitis the right rectus is frequently only moderately rigid; in some instances it becomes as rigid as in acute cases, while in others rigidity is practically absent.

The fact that muscular rigidity *may* persist even though morphin has *wrongly* been given to smother the guiding light, should be remembered. Morphin, however, can not be too strongly condemned in these cases of abdominal pain.

TEMPERATURE.

The temperature is not a reliable index of the patient's condition. When considered alone it is a most unreliable symptom. Too much importance must not be attached to the statement that a low temperature indicates a mild infection, and a high temperature a virulent one. Many cases have been recorded in which the appendix was gangrenous, and yet, during the early part of the attack the temperature was practically normal. Every surgeon of wide experience has frequently been impressed with this fact. In simple cases of appendicitis the temperature ranges between 99.4 and 102°F. A persistently high temperature is of special significance. It is often indicative of a virulent streptococcic infection. When the temperature becomes elevated after a temporary subsidence it is significant of danger. Cases have been noted in which the temperature was not elevated until late in the course of the disease. In chronic appendicitis fever may be absent; in some instances it is as high as in acute cases. The temperature must be considered in conjunction with the general findings, and the patients' expression. It is always better to take the temperature per rectum;

Lennander has called attention to the importance of observing the variations in the relation between the axillary and rectal temperatures.

PULSE.

The pulse is a more reliable criterion of the patient's condition than is the temperature. A very rapid pulse is significant of danger. When the pulse is out of all proportion to the amount of fever it is indicative of grave trouble. In many of the cases the pulse-rate is affected early; while the active process continues the pulse remains accelerated; as the infection subsides, the pulse becomes normal. In the chronic appendicitis the pulse may show little or no change. Cases of gangrenous appendicitis have been observed in which the pulse during the first thirty-six hours showed little or no increase in the rate. More will be said concerning the significance of the pulse rate in discussing the treatment. It may be stated, however, that simple functional disorders are frequently associated with a very rapid pulse. The pulse alone can never be relied upon in so far as the pathological changes are concerned; it must always be considered with the pain and muscular rigidity.

During the early stages of acute appendicitis a *tumor* will rarely be recognized. When a definitely outlined tumor has been detected at the very outset of the attack, operation will usually reveal this to be the thickened edematous omentum which has surrounded the appendix; the inflamed appendix itself is seldom palpable. In some instances it is possible to palpate the exquisitely tender, distended appendix after the attack has begun to subside and rigidity diminishes. A clearly defined mass can usually be outlined if the acute process persists for four or five days; this is due to an involvement of the surrounding tissues resulting in exudate formation. In chronic appendicitis the enlarged appendix may, at times, be palpable. In the greater proportion of the cases of appendicitis operation will reveal the appendix to be deeply situated; what the palpating hand regarded as the inflamed appendix was, perhaps, a localized area of rigid muscle.—(Kelly).

In almost half of the cases of acute appendicitis the bowels will be found constipated; it is quite rare to find the bowels regular during an attack of acute appendicitis. Constipation is regarded as one of the most constant symptoms of chronic appendicitis; it may be quite. In perhaps, one-third of all of the cases of appendicitis the bowels

will be regular. Diarrhea will be noted in quite a few of the cases.

A very valuable indication of the patient's condition is his general appearance. When the attack is mild the expression indicates suffering, and at times some shock; in a little while, however, this disappears and the patient lies quietly and seems to be quite comfortable. Head ache is not an infrequent complaint. The patient, however, does not appear very sick. In severe cases the patient often looks dull and somewhat indisposed; early in the attack the color is quite good, but as intoxication continues the skilled eye detects a dusky change; the skin has lost its clear color, and becomes covered with cool sweat. In many of the grave cases, the sclera become icteric; restlessness is not a good sign. An anxious expression may be a very early sign of a spreading peritonitis; in fully developed cases the appearance is characteristic. The pinched, anxious expression, the cold, clammy skin, the sunken eyes, the livid skin, the shallow, costal respirations, the distended abdomen, and the rapid, flickering pulse tell the sad tale of a human sacrifice.

The more attention we pay to the symptoms and the more closely we study the results obtained by *early* surgical intervention, the clearer becomes Dieulafoy's dictum.

In a following number the "diagnosis" will be considered.

E. A. BABLER, M.D., St. Louis.

Dietetics.

The April number of the *Practitioner* is given wholly to this subject.

Dr. Noel Paton takes it up in general, studying—1, The Chemical Nature of Foods; 2, Digestion of Foods; 3, Absorption of Foods; 4, Fate of Foods Absorbed; 5, Energy and Proteid Requirements of the Individual; 6, The Sources of the Proximate Principle of the Food.

1. Proteids or albuminous foodstuffs are substances of large and complex molecules containing carbon, hydrogen, oxygen, nitrogen, sulphur and, often, phosphorus. They may be decomposed into a large series of monamido and diamido acids, some of which are linked to a benzene nucleus, and into amides, such as urea.

The fats are ethers formed from the triatomic alcohol glycerin by

by Camerer, illustrates that, weight for weight, a child requires a greater supply of energy than a man:

Age, years	Weight in kilos	Energy used per kilo of body weight in calories	Total energy in calories
4 - - - -	14	91.3	1.280
12 - - - -	30	57.7	1.730
30 - - - -	66	42.4	2.800

The dietary requirements of children at different ages may thus be stated in terms of the requirements of an adult man doing average work. Atwater formulates this as follows:

Taking a man at - - - - -	1.0
A woman is equivalent to - - - -	0.8 of a man
A boy of 14 to 16 " - - - - -	0.8 "
A girl " " - - - - -	0.7 "
A child 10 to 13 " - - - - -	0.6 "
" 6 to 9 " - - - - -	0.5 "
" 2 to 5 " - - - - -	0.4 "
" under 2 " - - - - -	0.3 "

This table is of considerable use in studying family dietaries.

6. *The Sources of the Proximate Principles of the Food.*—In most races proximate principles are derived partly from the animal and partly from the vegetable kingdoms. Pure vegetarianism is theoretically perfectly possible, and that it is also practically possible is shown by the experience of many individuals and by several careful scientific observations. While quite possible it would probably prove to most people in this country (England) of considerably more trouble than the use of a mixed diet. The easier and more rational course from an economic and physiological standpoint is to use both animal and vegetable kingdoms as a source of proximate principles of the diet. But the consideration of the practical possibility of vegetarianism serves

to enforce the very great value of vegetable foods, a fact largely ignored in this country, and more especially by the poorer classes.

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General Considerations on the Therapeutic Uses of Diet is taken up by Robert Hutchison, who says that while there is no more ancient method of healing disease than by diet, still there is none which we use with a less degree of confidence and precision. The reasons are that the physiology of dietetics is far from being an exact science and, too, the personal factor is always coming in to upset our calculations. According to Francis Hare, with his doctrine of "hyperpyremia" excess of foods of energy yielding or carbonaceous elements of diet, is not necessarily converted into fat, but may circulate in the blood in an imperfectly oxidized form, and be the cause of migraine, asthma, biliousness and gout, to say nothing of insanity and neurasthenia, and several other conditions which we are constantly called upon to treat. On the other hand Professor Chittenden argues (with greater cogency) that an excessive consumption of proteid is the prevailing fault in ordinary diets, and that this, by throwing a constant strain upon the organs which are concerned in dealing with nitrogenous waste, is a fertile source of disease. Every practitioner should contribute observations along the line of which is right.

It may be that if carbonaceous food is consumed in excess then from the doctrine of "proteid sparsers" the complete oxidation of proteids is interfered with.

The comparative immunity of Carnivora to tuberculosis, for instance, and the success which has attended a raw meat diet ("zomotherapy") in phthisis should, at least, give us pause. It has long been held that the habitual consumption of a minimum of proteid exposes the individual to a lowering of vitality, which expresses itself in a greater liability to suffer from infective diseases. We would be doing our patient an ill service, if steering him clear of the Scylla of degenerative disease in later life, we should land him in the Charybdis of some infective process in his early manhood.

Progressive loss of weight and a habitually subnormal temperature are pretty sure signs that a more abundant diet is called for.

Change of diet (qualitative alterations in the diet) is not a panacea.

Some general rules are laid down by Hutchison:

1. When prescribing a diet for a case of local disease, one must take care not to sacrifice the whole to the part. It is often better, for instance, for a dyspeptic to endure a certain amount of discomfort after food rather than to lower his general vitality by too great abstinence.

2. No article of food should be forbidden unless one has a good reason for doing so.

3. In acute diseases one should recommend; in chronic diseases, forbid.

4. Before recommending any article find out whether the patient likes it, and whether it agrees with him.

5. If any article disagrees, it is generally better to reduce its amount in the diet than to cut it off altogether.

6. General and proposed changes of diet should be made gradually.

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Sir Dyce Duckworth deals with The Effect of Diet on Chronic Heart Disease and Diseases of the Circulatory System. "In cases of valvular defect," says the writer, "which are compensated by kindly efforts of Nature in the form of simple hypertrophy, the object to be sought, in respect of dietetics, is to promote and encourage this process by maintaining a wholesome and effective nutrition of the whole body." Plain food of all varieties, plainly cooked, taken in regular meals, without any overloading, or excess in solids or liquids, is to be enjoined.

If sufficient food is taken at meals there is no need to feed habitually between meals. Strong meat soups and essences are to be avoided, and tea sparingly taken by both young and older patients. Tobacco is to be abjured. If, as a result of failure, there is dropsy the diet has to be modified, for a distension of the stomach and a plethora of even diluted blood are mischievous factors in such a case. It is necessary to feed such patients small meals and to limit the amount of fluids of all kinds.

Liquids are to be taken chiefly between meals. The chief meal should be eaten soon after midday and a lighter one in the evening. The choice of food is hardly important so long as it is simply prepared and readily digestible. Predigested food may be needed in some cases. Coffee with an equal amount of milk is commonly digested better than tea.

Dr. Peacock, of St. Thomas' Hospital, knew of no form of heart disease in which some form of alcohol might not be used. It may be affirmed that, in some cases, a little brandy or whisky, or gin is of distinct benefit, best given with a meal.

In the later stages of progressive heart failure, with tumidity of the liver and dropsy, predigested foods, kumyss and the like must be resorted to.

In cases of widespread arteritis, with high arterial tension, much benefit is derivable from a diet deficient in proteid. An increase of diluents is also important, especially between meals. Vegetable and carbohydrate food, with fish, must be the mainstay in these cases.

In the conditions of the blood, which lead to clotting, and so inducing thrombosis in the veins or arteries, we may readily combat the hyperinosis by a vegetable and diluent dietary, and by avoiding the use of milk (lime salts) in any but small amount. Lemon juice is of particular value in hyperinotic states.

This abstract will be continued in the next number.

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[2144 S. GRAND AV.]

The Treatment of Typhoid Perforation.

"The courage to operate will come of the knowledge that the only alternative is the patient's death."—J. T. Wilson.

Since perforation occurs in almost 7 per cent of all cases of typhoid fever and is, according to the experience of Osler, responsible for more than 25 per cent of the mortality of the affection, it is quite obvious that this very distressing complication—a complication that may occur at any time during the course of the disease, although it occurs most frequently during the latter part of the second or beginning of the third week—demands thorough, painstaking study. It is worthy of note that perforation occurs far more frequently in males than in females; Harte and Ashurst are of the opinion that 80 per cent of perforations occur in males. This fact is very significant when it is recalled that typhoid occurs as frequently in the female as in the male. Another important predisposing cause is the severity of the disease, although Keen, and others maintain that there is absolutely no definite relation between the severity of the individual attack and the occur-

rence of perforation. Osler voices my conviction when he contends that perforation occurs more frequently in the severe cases. It would seem that in the severe cases the toxemia is greater; the agglutination thrombosis more severe; and the healing process slower, thereby favoring a deepening of the ulcerative process. On the contrary, however, it is true that in the mild cases the patient will often act indiscreetly; he strains at stool, assumes a sitting posture too early, partakes of improper food, does improper acts which latter cause sudden contraction of the abdominal muscles, etc.

No portion of the intestinal tract is exempt from perforation. Experience proves, however, that in more than 80 per cent of the cases the lesion is found in the ileum. In 220 collected cases the writer found the last foot or eighteen inches of the ileum involved in 168. The size and shape of the perforation are variable. Osler has stated that the higher in the bowel the more likely is the perforation to be in a small ulcer without much inflammation or necrosis of the wall; the earlier the perforation the closer the valve and the greater the risk of a widespread necrosis of the mucosa. Of 180 collected cases the perforation was less than one-eighth of an inch in 79; less than half of an inch in 88, and more than half of an inch in 13. When the perforation occurs in the cecum it is usually oval or oblong. In many instances the perforation is ragged.

The most important and constant symptoms indicative of perforation are: Sudden onset of severe abdominal pain; sudden, decided change in the patient's expression, pulse, temperature, and condition in general; intra-abdominal change as evidenced by tenderness, muscular rigidity, posture, etc. Cushing has called attention to a pre perforative stage—characterized by pain and tenderness, and a possible rise in leukocytosis. Osler, however, does not pin much faith in the so-called pre-perforative stage, but Schattuck, Warren, and Cobb, conclude that in the majority of cases of perforation certain premonitory symptoms will be recorded at a time more or less remote from the severe symptoms which induced the consultation. A study of the literature tends to show that the pre perforative stage may be present in those cases in which the ulcer gradually deepens, inducing a plastic peritonitis; where the medullary infiltration has involved the entire thickness of the bowel, however, it is not at all probable that premonitory symptoms will be present. It is in these latter cases that the perforation usually takes place during sleep.

PAIN.

Anatomy teaches that the peritoneal coat is supplied with sensory nerves, hence, it not surprising that the patient complains of pain when perforation occurs. In fact, sudden, severe pain in the abdomen is one of the most frequent and important symptoms of typhoid perforation. As a rule, it is complained of in the right inguinal region; it may be referred to the penis, rectum, umbilicus, or left inguinal region. It is usually of sudden onset, of a stabbing character, and paroxysmal. In 219 collected cases the writer found sudden, severe pain in 186, while in 27 the pain was described as gradual and not severe; in 2 only was pain absent. Schattuck, Warren, and Cobb do not deem it possible too forcibly to emphasize the fact that abdominal pain, especially if localized, complained of by the patient in the mild or moderately severe type of typhoid, is not a frequent occurrence unless it means peritoneal infection, localized or general. By pain is not meant the discomfort or uneasiness due to meteorism. It is a fact that cases have been reported in which pain of a somewhat severe character was present although no perforation was detected at time of operation.

TEMPERATURE.

Any sudden change in the patient's temperature demands prompt and thorough investigation. When perforation occurs there is usually a sudden change in the patient's temperature; there may be a sudden drop or a sudden rise; in some instances the bedside notes show a sudden fall followed by a rise or *vice versa*. Dieulafoy regards a sudden fall in the temperature an infallible sign of perforation. Very recently I saw a case of typhoid fever in which the patient, who was in about the end of the third week of the disease awakened one morning covered with cool perspiration; the temperature had dropped one and a half degrees, but there was no pain, and the pulse and abdomen showed no apparent change. I mention this case to emphasize the importance of always considering every phase of the clinical picture. In 14 of Finney's cases of perforation there was a decided fall noted.

PULSE.

The pulse tells us much. In most of the cases of perforation the pulse shows a change in quality and rate soon after the lesion oc-

curs. Mackenzie considers it very significant if the pulse during the first few hours following the attack of pain, becomes more rapid, running and feeble. Briggs attaches a great deal of importance to the pulse; he states that if the pulse change is associated with sudden pain, or change in temperature it becomes of vital importance.

FACIAL EXPRESSION.

A careful study of the patient's expression tells of the changed condition. In many instances the change in the expression is very striking. The cheerful look has been displaced by an anxious, pinched expression; something decidedly wrong has occurred; the lips are pale, the eyes sunken, and the patient is restless. In delirious patients the change may not be so prominent.

TENDERNESS.

The point of greatest tenderness is usually situated in the region of perforation. Mackenzie contends that tenderness is next to the most frequent accompaniment of perforation. If complained of previous to the onset of the pain, it becomes of increased severity. Osler calls attention to the contention that the position of the terminal loop of the ileum would seem to explain the frequent occurrence of the pain in the right inguinal region.

RIGIDITY.

Rigidity is a very important sign and is usually present early. Briggs concurs in the contention that rigidity is the most important of all the physical signs. In a few instances rigidity has not been observed. The bedside notes will assist greatly in enabling the medical attendant to correctly appreciate the significance of the rigidity. It must be remembered that an abdomen does not have to be as rigid as a board before its presence can be detected and its significance duly appreciated. Rigidity so often indicates a developing peritonitis.

LEUKOCYTOSIS.

The blood count can be of very little service to the medical attendant who does not find it possible to place his patient in a well-regulated and perfectly equipped hospital, since a single examination misleads. An hourly blood count should be made in all suspicious cases.

Murphy considers collapse as a late manifestation, and expression of the "blistering" of the peritoneum and absorption of the products of infection. There seems to some relation between the quantity, rapidity, and character of the escaped content and the severity of the initial shock.

Vomiting is not a constant symptom. Persistent vomiting associated with sudden, paroxysmal pain in the abdomen is always a serious symptom. Vomiting is often absent until late. Dulness is not always present.

The diagnosis must be made as soon as possible. In some cases, however, a positive, early diagnosis is practically impossible. Just as soon as we learn to appreciate the importance of keeping accurate and complete bedside notes in every case of typhoid fever, the more frequently will we be able to recognize the distressing complication at an how sufficiently early to save the life of our unfortunate patient. Every change in the patient's condition demands prompt and painstaking consideration. The diagnosis must be based upon the sudden onset and severity of the pain, the sudden change in patient's expression, pulse, temperature; the localized tenderness, the muscular rigidity, the posture, and the picture in general.

Keen believes that if pain, fall in temperature, and a rise of leukocytes to 15000 or even 50000 be present, then you ought to conclude that there is a perforation, while Shattuck, Warren and Cobb conclude that pain, associated with local tenderness and muscular spasm, and a rising leukocyte count points, in most cases, to an operation; in all to a surgical consultation.

Intestinal obstruction, perforation of the gallbladder, iliac thrombophlebitis, mesenteric thrombosis, intussusception, etc., must be excluded by careful and painstaking examination.

The prognosis naturally depends upon the hour of diagnosis and the character and time of the treatment. It must be admitted that a few of the cases of perforation do recover without operation; perhaps, more than 75 per cent of non operated cases die. When the perforation occurs in some quiet nook of the abdomen, and where the plastic peritonitis prevents the escape of intestinal content, or where the omentum acts in a like manner, it is obvious that the patient may recover without operation. Early diagnosis and prompt surgical intervention will save, perhaps, half of the cases—possibly more. A

great deal depends upon the stage of the disease, the previous condition of the patient, time of operation and the general condition of the patient at the time of operation.

The treatment is always surgical—operation at the very earliest possible moment. Shock should be combated with saline solution. Ergot may be found of value. The consensus of opinion agrees that ether administered by the drop method (on a regular chloroform-mask) is the one to select. The patient must be moved as little as possible; the abdomen is prepared very gently; Harrington's solution preceded by a washing with warm soapsuds and followed by sterile water is quite sufficient. The operation must be performed quickly, thoroughly, and systematically. An incision is made along the outer border of the right rectus; the cecum sought and found; the ileum is inspected, slowly and thoroughly; the bowel is gently replaced into the abdomen as quickly and carefully as possible; the perforation may be covered with particles of lymph, or it may appear as a black spot, while in some instances newly formed adhesions will be found to obscure its detection. When the perforation has been located, the treatment will depend upon the patient's condition, the site, character and size of the perforation, the condition of the adjacent tissues, as well as the amount and nature of the peritoneal soiling. If the perforation is very minute and there has been little or but slight peritoneal soiling, and if the patient's condition is satisfactory, the wound may be closed by means of a double row of Lembert sutures. Drainage should be employed in every case of typhoid perforation. Whenever there exists suspicious areas, a drain should be so placed that if perforation does occur it will prevent peritoneal soiling. When the patient's condition is unfavorable or unsatisfactory, the loop of bowel is surrounded by strips of gauze, and held in contact with the site of incision by means of a few sutures of silk; free drainage is thereby established. If feculent matter has escaped into the peritoneal cavity, and has found its way into the lower pelvis, flushing may be employed, or a stab drain and the sitting (exaggerated Fowler) posture may be employed after the escaped contents have been carefully removed. Escher's treatment has, so far, yielded the best results.

The experience of the attending surgeon will have much to do with the technic employed. It is a well known fact that the surgeon must reach the injured tissue as quickly as possible; he must at once

decide the better course to pursue, and get out of the abdomen at the earliest possible moment. I can not too forcibly impress the fact that drainage should be resorted to in every instance.

Experience shows that the bedside notes render a diagnosis quite easy in many of the cases. The future will prove their importance.

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CURRENT EDITORIAL TOPICS.

Finances of the A. M. A.

In these days when the people are demanding in very certain terms that all corporations must do all their work openly, the criticism of the *Medical Record* as to the report on the financial condition of the A. M. A. has some truth:

"The financial reports of the American Medical Association are disquietingly analogous to those of the insurance corporations. They deal in glittering generalities—and the surplus increases at the rate of \$25,000 annually. But what are the items of expenditure? In the report of 1905 the expenses of 'organization' are set down at \$7,797.04; organization of what? The sum given away in salaries and wages was \$78,874.79; whose salaries? For 'medical legislation' there was spent \$1,234.90. Under the item 'Association' we find \$10,062 30 expended. The average circulation of the *Journal* was 38,006, and the income therefrom should have been in the neighborhood of \$192,000; but the total amount received from dues and subscriptions was only \$147,651.61, leaving over \$44,000 unaccounted for. And so on.

"What the members of the Association want is frank publicity in the financial reports—not indefinite items which defy analysis. Herein lies danger to the Association. Such a report as that published in the *Journal* of June 16th is worthless and worse—it is not frank. What the members have a right to know is what 'organization' means, what 'salaries and pay roll' means, what 'Association' means, why more than 23 per cent of what should have been received in dues and subscriptions remains unaccounted for, and so on. Every member of the Association is the owner of an undivided fraction of the property of the Association, and he should be told how this property is being managed; he wants something more than the assurance of a retiring president, in virtue of his office a mere figure-head, that everything is all right and that the rulers are honorable men. There may be no 'ring'

or 'clique,' in the evil acceptance of the term, but there is want of frankness on the part of those who control the Association."

The Alleged Epidemicity of Appendicitis.

Every practitioner knows that even diseases not regarded as contagious and caused by accidental conditions, have periods in which their prevalence is greatly increased. Such a disease is appendicitis. Its epidemicity at times seems a very singular occurrence and has been ascribed to influenza and other infections. The increased consumption of various food, especially meat, has been connected with appendicitis.

The *Medical Record*, June 30, 1906, discusses the recent view of Cheinisse, who "would take cognizance of the fact that perhaps improved methods of diagnosis and a more complete knowledge of the clinical history of the disease during recent years have tended to define many cases as appendicitis which formerly went unrecognized."

Food Experiments Are Proverbially Deceptive.

The controversies concerning the needful quantity of proteids necessary for the healthful activity of man, the investigation in regard to the toxicity of preservatives, induces *American Medicine*, April, 1906, to speak rather harshly of experimental methods and dietetics:

"In no other branch of science have such contradictory conclusions been drawn from identical data, While Professor Chittenden, of Yale, is proving that we eat too much nitrogen, certain Germans are frantic because we take too little. In the hands of some men, alcohol shows itself to be a valuable food, while another camp proclaims from the housetops that it is worse than sawdust—a positive poison even in drop doses. While Wiley, the chemist, advises men in the tropics to leave meat alone and subsist mostly on fruits, many of the tropical experts declare that such a course results in fatal nitrogen-exhaustion. While Haring, a Boston expert, advises cutting down the meat ration of soldiers in the tropics, the British were compelled to increase it in India. Washington experts advise against the use of fats in hot contries, but we find that such foods are demanded and consumed in large quantities. And now to cap the climax, food preservatives decided to be very harmful may prove to be slightly bene-

ficial. In the interests of pure food, and drink, and drugs, sold under their own names, we hope that in all future experiments the data will never be used to support a theory formed in advance."

Breast Feeding.

The *Medical Record*, June 23, 1906, in an editorial discusses an article by Engel (*Monat. f. Geb.*):

"It is claimed by many that the care of infants can no longer be regarded as a purely medical question, but that with the growth of civilization it has also become a social and economic problem. In view of this fact, the question of whether the women of the present day are capable of nursing their offspring as those of the past, has become one of paramount interest. It is now almost a matter of custom to take a pessimistic view of the situation, and the theory has been advanced that the continued non use of the mammary glands by several generations of women will gradually result in their atrophy. Such an extreme standpoint is perhaps an exaggeration and it has been repeatedly demonstrated by pediatricists that the situation is not hopeless and that in numerous instances an apparently inactive breast may be made to functionate properly. It therefore remains for the obstetrician to institute such precautions at an early date as will insure to the child his natural supply of food. In the majority, if not in all women, the breasts become physiologically active after parturition, but although this fact is acknowledged we have little reliable statistical information regarding the length of time during which this function persists or to what extent it may become developed. A point which has been clinically demonstrated in connection with this subject is that there are occasionally women who are physically incapable of lactation, although the necessary mammary gland development is apparently present."

Engel made a very careful study of the breasts of women dying during or after labor, and concludes that in a certain number of breasts this function was incompletely developed, the fibrous elements outweighed the glandular. Such breasts, of course, could not become very active.

Skepticism.

Who does not at times have grave doubts concerning many of the theories of modern medicine? As a rule, we rely on facts and

still many alleged facts are only inferences. The New York *Medical Journal*, June 23, 1906, gives us some interesting points editorially:

"It may be wonderful if we shall ever know the real sequence of events in normal and pathological processes. Scientific persons, like other human beings, are prone to attribute unexplained phenomena to factors that have been proven to be active in the production of analogous phenomena. For example, in a recent editorial we suggested that smallpox might in the future be shown to be disseminated by the bite of some insect. In another we referred to experiments which appeared to show that the hypertrophy of the mammary glands occurring during pregnancy was due to the circulation of an internal secretion in the blood and that the establishment of lactation was due to the discontinuance of this internal secretion. Only a few years ago the theory of the spread of infectious diseases by fomites was considered satisfactory and the theory of the secretion of milk by the influence of secretory nerves was accepted as proved. In a few years more we may be obliged to abandon our theories of internal secretions and some of our other hypotheses. Let us, therefore, be charitable to those among us who do not accept and adopt new theories at once. Presumably the object of every investigator is to arrive at the truth. The honest doubter should never be derided, but his doubts should be overcome, if possible, by calm reason. The time expended in reasoning with the doubter may be valuable in clearing our own ideas respecting the subject discussed."

Imaginary Stomach Affections.

The phobias of neurasthenia break out in so many forms that the practitioner must be constantly alert, he must not treat the stomach for some transient digestive disorder, otherwise, the patient's introspective habit is centered in this organ, and thereafter he suffers from some severe gastric disease.

The *Journal Minn. State Med. Ass'n*, June, 1906, refers to the recent article of Dejerine and Glancker:

"As a result of this suggestive method of diagnosis and treatment the neurasthenic becomes introspective and depressed. His mental field of vision is centered upon a special organ, and he rushes from one physician to another and not infrequently lands on the surgeon's table. His gallbladder, stomach or appendix is illuminated by Nature's light and searched for evidences of disease. If there is a shadow of doubt, the organ is resected or explored. His recovery is

confidently predicted and his hopes raised to a high pitch only to be lowered after a few weeks or months. He again drifts over the seas of medicine or surgery until he either becomes a confirmed invalid or until he lands among the faddist and is led to think his sufferings are unnecessary. His mind is relieved for a time and he becomes convinced that the doctors are fakirs and that his cure lies within the province of the mystics.

"These phobias should be recognized early by the practitioner and a suitable regime be outlined for present and future guidance. Each individual should be carefully studied as to his ancestral tendencies, his early life influences and his present mode of life and occupation. A careful consideration of his defects will often furnish the keynote of treatment. The influence of deficient physiological function must be studied relative to the effect upon the nervous system and, if possible, a balance established that will make him comfortable at least. The effect of suggestion upon his mental sphere must be constantly kept in mind by the practitioner. The nervously unstable and depressed individual is responsive to good or bad suggestions and it should be the study of the physician to skilfully avoid anything that may in any way discourage the neurasthenic.

"The simple life, outdoor interest, the avoidance of fatigue, both mental and physical, and a cheeful personality in the form of a medical advisor, are the chief factors in the restoration from strange sensations that are now recognized as phobias in persons of psychoneurotic construction."

College-Bred Vagabonds.

It is only too true that the laborer is really in less danger of starving in this country than some helpless educated vagabonds. Education tells how but does not give the energy to work. *American Medicine* presents some concise statements in regard to this topic:

"College bred vagabonds occupy considerable space in all discussions of the unemployed, but rarely, if ever, is the pathologic side of the matter even touched upon. The Bowery Branch of the New York Y. M. C. A. gives assistance to many derelicts in the course of the year. It is said that of the last 3228 helped 17 were graduates of universities, 137 from colleges, 71 from academies and 417 from high schools, a total of 639. The usual proportion is about one-fourth. This is a horrible condition of affairs and the cause must be discovered. These are sick men unable to work—suffering from neurasthenia, generally, on which is grafted an alcohol or drug habit to increase the basic disease. Is this dreadful blot chargeable to the educators or

physicians? Perhaps a few were unfit subjects for education and should never been sent to school higher than the eighth grade. If so, some way should be found of discovering such cases and preventing this waste of money—and lives. Perhaps some of them were injured by the exhaustions of excesses of some sort—athletics or even the ‘grind’ of much study and insufficient sleep. Most are probably sufferers from eyestrain. The learning possessed by some of them proves that they must have been ideal students in the eyes of the teachers. A few are said to be full of classical knowledge of no earthly use to them—splendid Greek scholars begging for bread. The worst of all, is the fact that three-fourths of the men—including the uneducated—are native born Americans and only one-fourth foreigners. Inability of the body in some direction or other to respond to the increased demands, the hurry and rush of our modern civilization is at fault in most cases, but there should be definite knowledge as to what causes these neurasthenias in the native born.”

Clean Milk.

Have you observed what great interest the subject of clean milk has aroused all over the world? Milk and ice cream are the most common conveyors of disease, it is right that an increasing attention should be given to this important article of food. The *New York State Journal of Medicine*, June, 1906, has a short editorial on this subject:

“The question as to which is the best milk for infants and children, next to mother’s milk, has passed through various stages of discussion. The most available milk in this country is that of the cow; and sterilization by means of heat was applied to it as soon as the bacterial cause of the enteric diseases of childhood. This process has undergone much the same change as the contention for absolute asepsis in surgery has; it has been found that it is quite impossible to eliminate all bacteria, that a few micro organisms do little or no harm, and that to kill all the bacteria inflicts damage upon the environment in which the bacteria live. So Pasteurization wrought deleterious changes in the milk; and effort simply to minimize the number of bacteria has been followed by such astonishingly good results that it signalizes one of the great advances in preventive medicine.

“Certified milk has resulted from this knowledge, and the demand for this milk is increasing beyond the supply. The sensitiveness of urban infantile intestine is destined to exert a powerful influence for good upon the rural barnyard, and the farmer is beginning to wash his hands, just as the surgeon did twenty years ago.”

Science and Philosophy.

"There is an unfortunate disposition among latter day scientists to regard with a sort of mixture of amused contempt and impatient intolerance the functions and uses of philosophy, because, as they say, she deals with inexact knowledge while science deals with certainties. The average scientist is quite convinced that science has to do with the solid realities of life, while philosophy is concerned with idle speculations. However flattering such an attitude may be to the scientist's vanity, it is in the last degree foolish and has proven disastrous to the highest interests and usefulness of science. Philosophy fulfills the same office toward the various departments of science that science herself does to facts—arrange them and predicates laws upon them. It is not true that philosophy deals with inexact knowledge; it is true that she deals with incomplete knowledge, and that she takes cognizance of and makes allowance for this incompleteness in one of the elements of her superiority over science. But her chief advantage lies in that she takes account of all classes and departments of human knowledge, and is therefore far less likely than pure science to distort proportions, invert values, and read processes backwards.

"Some of these erroneous forms of thought have arisen from a habit which teachers and practitioners of applied science have acquired of reducing hypothetical propositions to provisionally definite terms, for the sake of working convenience, and then forgetting the provisional nature of the terms, as, for instance, speaking of latent heat as though heat was ever really latent. Others have come about by reason of the plumbing of Nature's infinite phenomena by man's finite instruments. The mathematician, most exact and arbitrary of scientists, talks of spacial relations being amenable to his square and compass, whereas, of course, the truth is that he adjusts his square and compass to spacial truths. But whatever be the origin of such erroneous habits, they are dangerous; for wrong forms of thought eventually give rise to wrong thought, and this to ineffective and wasteful currents of action, which sooner or later have to be stemmed and turned by a more or less revolutionary upheaval.—*Medical Standard.*

Curability of Leprosy.

The New York *Med. Jour.*, discusses the recent report of Unna, of Hamburg, on the curability of leprosy, who has been very successful in attacking cutaneous leprosy, but not macular or anesthetic leprosy. His patients were among the well-to-do; the prognosis of the poor is much less favorable. To quote:

"Leprosy is not an easily curable disease for which there exists an absolute specific, like mercury for syphilis. But, as there are certain cases of tertiary syphilis which do not respond to mercury and iodine alone, but to a combination of these specifics with external treatment with sulphur, so also is it in leprosy. The bacilli of leprosy cause a torpid and weakly action of the derma and nerves, which organisms are not able to expel the intruders. The bacilli, furthermore, fill out all lymphatic fissures of the organs, thus suspending metabolism and making it difficult for remedies to have any beneficial influence. This is shown by the fact that subcutaneous leprosy is more easily treated than that of the cutis. But the greatest impediment is the internal formation of solid fat in the body of the bacillus, while it surrounds itself with a glea, consisting of dead bacilli, also containing solid fat. Unna has succeeded in demonstrating by means of his Victoria blue safranin method the dark blue living bacillus surrounded by the yellow matter of dead bacilli.

Alcoholism and Postoperative Mortality.

When it comes to finding the great antecedent of predisposition, alcohol can usually be selected. Its fearful work in pneumonia and typhoid fever is well known. Chronic alcoholism lowers the vitality and should be given due consideration in the prognosis of operative procedures according to the *Annals of Gynecology and Pediatrics*. We quote:

"That it is a factor in increasing the mortality after operation can not be too strongly impressed upon the operator's mind. The effect of alcohol upon the kidneys and nervous system render a patient much less liable to withstand any shock, especially that of a prolonged abdominal operation. The peculiarity of these cases is that the history is usually one of a patient who has been in the habit of indulging in alcohol daily and to an amount that should affect them to a degree of intoxication, but they do not become easily affected by the drug and imbibe large quantities steadily without apparent ill effect. After operation, especially a long one, where the shock is very considerable, the pulse is rapid, remains rapid and is unaffected by any treatment applied to the condition. The kidneys almost invariably develop a certain amount of acute nephritis with a very much lessened excretion. The patient does not rally well from this condition, and the mortality is very high. In fact, in looking over one's records you find that a large percentage of postoperative mortality are patients belonging to this class. The same operation, the same length of time and the same

severity in a patient who is non-alcoholic, the shock is not so severe and the patient will rally from even profound degrees, and respond very much more readily to all forms of treatment."

Warm Baths.

So many people seek the cold streams and cool natatoriums in summer to alleviate the disagreeable effect of heat, is it not often a mistake? *American Medicine* has a timely editorial on the subject:

"The warm bath in summer deserves more attention than is generally given to it. Winternitz, in a discussion of the therapy of cold baths, directs attention to the fact that cold produces heat. The sudden application of cold to the skin stimulates the heat centers to a greater activity and at the same time causes a redistribution of the surface blood. This tonic effect spreads to the whole nervous system and shows the greatest benefit in typhoid fever, though here the prolonged immersion extracts the excess heat. In all torpid conditions the quickly administered cold application serves a very valuable end, even at the extremes of life. It is different in the nerve exhaustions of hot weather, where we aim to soothe and not to stimulate. The English found long ago in India that those who bathed in tepid water were in better condition and stood the climate longer than those who used cold. The morning plunge may be all right in England, as it stimulates the heat production needed for life in their cold houses, but in India the extra heat thus produced may have been a factor in the universal nerve exhaustion. Those who take numerous cold baths in summer are merely thereby adding to the draft of the furnace and producing more heat to bother and exhaust them."

Goiter Remedy.

Dr. Chavette claimed to cure every case of goiter he treated by the following remedy:

R. Zinc sulphat.....
 Salicylic acid.....
 Iodoform.....aa 3ij
 Boric acid..... 3iij
 Oleic acid.....3viiij

M. and keep at a boiling heat for several hours, then pour off the liquid, and when cool, bottle. Sig.—Apply to the enlarged gland, with friction, twice daily, until a slight desquamation occurs, after which apply once daily until the enlargement is entirely reduced. In no instance did the disease return.—*Medical Council*.

MEDICAL DIGEST.

DEPARTMENT EDITORS.

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Management of Angina Pectoris.

Perhaps, it is too much, to expect a cure of these diseases which we know depend on calcareous degeneration or cicatricial tissue.

In arteriosclerosis for example, if it is true that the thickening and hardening arteries is only a reparative process, we can not expect to remove the elements of the repaired tissue, but we would like to save the rest of the arteries.

One of the most distressing maladies is angina pectoris which Huchard ten years ago declared was always due to disease of the coronary arteries.

Burwinkel (*Berl. Klin. Woch.*, April 30, 1906) of Bad Nauheim, discusses the pathology and treatment of angina pectoris, from an abstract of which article (*New York Medical Journal*, June 23, 1906), we quote:

"Many patients are corpulent, and some of them have taken remedies for obesity and fatty heart. It has been observed that immediately after a fat reducing course of treatment stenocardiac disturbances develop. In every case of angina pectoris it should be the rule to carefully and repeatedly examine the urine. Very often sugar and albumin will be found. Aortic disease plays an important rôle in the genesis of angina pectoris, whether the valvular affection is due to rheumatism and occurs in the course of a polyarthritis, or is the result of a local sclerotic process. In a number of the reporter's cases (14 per cent) he found coronary angina combined with valvular aortic defect, and these, as the rule, occurred in persons under 50 years of age. Among the infectious diseases, influenza stands prominently forward for its influence in the development of angina pectoris."

Syphilis, of course, has a prominent place in the etiology, when antisyphilitic treatment is indicated. To quote again:

"The paroxysms are brought on by exertion, and are usually absent during rest, although they may be excited by eating a meal. Contrary to many observers, the author always found irregularity or slowing of the heart beat, sometimes it is more rapid, sometimes slower than normal. The heart sounds are modified and have a fetal character. The prognosis is always unfavorable; in cases of pure coronary sclerosis the heart may suddenly cease its action from stenocardia; while in cases in which there is valvular disease death occurs gradually from defective compensation."

He does not mention the classic treatment by arsenic, but highly extols the iodids taken systematically and for a long time:

"The combination of chloral hydrate or potassium bromid with the iodid is often advantageous. Diuretics are of value, especially sodium theobromin salicylate in doses of 0.5 grams (gr viii) several times a day. Small doses of podophyllin, or of quinin hydrobromate, may be combined with the latter to overcome constipation or nervousness. Digitalis and caffeine often alleviate the hearts condition. The application of leeches has a good effect in withdrawing blood from the venous system and reducing the viscosity of the blood so that it will pass more readily through the stenosed coronary vessels. In using the cure at Nauheim, caution is advised not to subject the body to shock, but to gradually pass from the mild to the stronger sprudel baths. Care is to be taken also during the bath not to inhale the carbon dioxid. In this way bad results are avoided and the patient can receive great benefit from the treatment. In winter the patient is advised to live in a mild, sunny climate, and by the use of massage, alcohol frictions, and foot baths to maintain the peripheral circulation."

As far as the treatment of the actual attacks of angina, he gives a hypodermatic injection of morphin in the first place; at the same time some diffusible stimulant should be given. To quote further:

"In the stenocardiac condition the best remedy is a morphin injection, from which the reporter had never seen any ill results. This may be accompanied by diffusible stimulant. Local applications of mustard leaves, hot compresses, or blisters to the cardiac region are often useful. The inhalation of five drops of amyl nitrite, until the features are reddened, will often cut short an attack. Nitroglycerin also will prevent light cases. During the interval the treatment should be directed toward the avoidance of everything that excites the heart to increased action, and which leads to higher blood pressure. At the beginning of treatment it is of great importance to give the patient several weeks' absolute rest in bed, upon an exclusive milk and vege-

table diet. At all times the patient must be cautioned to avoid excitement, hasty movements and sudden changes of temperature. A vegetarian diet is the best, since it tends to reduce the viscosity of the blood. The evening meal should be light. It is not necessary in every case to strictly forbid the use of alcohol and tobacco."

Blood Platelets.

"The blood platelets were first described by Donné in 1842, who regarded them as particles of globulin derived from the red cells. The discussion in recent years has been principally concerned with their possible relationship to the red corpuscles, the part they play in coagulation and thrombosis, and the most accurate methods for their study and enumeration. Up to the present time we have very little definite knowledge as to their origin, but three theories are generally advanced: First, that they are the products of degeneration of either the red corpuscles or the leukocytes; second, that they are found in the process of growth of the red cells; third, that they are an independent morphological elements of the blood."

With this introduction Cadwalader (*Bull. Ayer Clinic Laboratory*, June, 1906) discusses various ideas concerning the blood platelets entertained by different investigators. He then records his own experiments in studying this morphologic element of the blood. As regards the technic of study he writes:

"Beautiful preparations can be made by vital staining with solutions of toluidin blue, brilliant cresyl blue in normal salt solution and by Unna's polychrome methylen blue and neutral red. When stained in this way the platelets, after coming in contact with the salt solution will swell up—sometimes very little and sometimes enormously. Occasionally one will be found which is three-fourths the size of a red cell. They appear round or oval, or rod-shaped with rounded ends, and always perfectly flat.

"In the center or at one end there is a small area which takes a deep blue color and is granular, while the remainder is more finely granular and not so deeply stained. The two shades of blue are in deep contrast with each other. Cresyl blue is, perhaps, the most satisfactory.

"They are easily stained with neutral red and present the same general characteristics as with blue stains."

He argues, that no two examiners have agreed as to the actual number of platelets in a cubic millimeter of blood. To quote again:

"The number of platelets per 1 cmm. of blood differs somewhat, depending on the method used. By both methods there is a moderate variation from day to day. This variation is probably a relative one due to the uncertainty of technic and not one to any change in the number of blood elements.

"The average of six counts by the differential method was 327,156, while by Helber's method it was 227,000, just about 100,000 less. The latter figures with those found to be normal by Helber himself. The average which I have found by the other method I would consider normal, although a trifle lower than that found by Pratt."

In studying the platelets in disease he found their number normal in pneumonia, but in typhoid fever they were somewhat diminished in number. The differential method of counting, using a diluting solution containing sodium metaphosphate, when carried out with great care as to cleanliness of coverslips and slides will give very satisfactory results.

Pyrenol.

The newest synthetic which is attracting some attention is pyrenol. It is a compound of benzoic acid, salicylic acid, thymol and sodium. On first sight it seems rather a complicated compound and yet it can not be gainsaid that the active radicles in it are among our most powerful remedies. Quite a little literature is accumulating in regard to this compound. We are not sure as yet whether this chemical compound has superior medical qualities to a mixture of thymol and salicylic acid; at any rate, it merits consideration. Its indications are succinctly stated by Walther (*Therap. Neuheiten*, 1906):

"Pyrenol is chiefly expectorant, sedative, antipyretic and antirheumatic. It does not affect blood pressure and pulse, as almost all salicylates do; on the contrary, it is tonic and stimulant. Stomach and intestines are in no way injured even by its continued use; the appetite improves.

"Its most striking results are seen in asthma, where it produces material relief, even of the dyspnea. Secretion is lessened and the attacks are rendered milder and often checked altogether.

"It is almost as valuable in pertussis, diminishing the intensity of the spasms.

"It acts exceedingly well in croupous and catarrhal influenza, influenzal pneumonia, acute bronchitis and typhoid. Here its antipyretic action is supported by its expectorant and analgesic virtues.

"Its content of salicylic acid, which is chemically combined to a readily soluble salt, makes it especially useful in articular and muscular rheumatism, gout and, in larger doses, in neuralgias.

"Finally, Walther states that pyrenol is used with benefit also in cardiac neuroses and subjective difficulties occasioned by cardiac affections.

"The average adult dose is 7.5 to 15 grains t.i.d. In pneumonia and typhoid 7.5 grains every three hours are given; children get one-half and infants one fourth of this dose in cold water, milk, etc."

Philosophy of Osler.

Except it be a lover, no one is more interesting as an object of study than a student.

No human being is constituted to know the truth, the whole truth and nothing but the truth; and even the best of men must be content with fragments. In this unsatisfied quest the attitude of mind, the desire, the thirst, the fervent longing are the be-all and end-all.

The hardest conviction to get into the mind of a beginner is that the education upon which he is engaged is not a college course, not a medical course, but a life course, for which the work of a few years under teachers is but a preparation.

Men will not take time to get to the heart of the matter. After all, concentration is the price the modern student pays for success. Thoroughness is the most difficult habit to acquire, but it is a pearl of great price, worth all the worry and trouble of the search.

A true student is a citizen of the world, the allegiance of whose soul, at any rate, is too precious to be restricted to a single country.

Lift up one hand to Heaven and thank your stars if they have given you the proper sense to enable you to appreciate the inconceivably droll situations in which we catch our fellow creatures.

Hilarity and good humor, a breezy cheerfulness, a nature sloping toward the southern side, helps enormously both in the study and in the practice of medicine.

Io victis! Let us sometimes sing of the vanquished. Let us sometimes think of those who have fallen in the battle of life, who have driven and failed, who have failed even without the strife.

You can not reach any better position in a community; the family doctor is the man behind the gun who does our effective work.

The successful teacher is no longer on a height pumping knowledge at high pressure into passive receptacles—he is a senior student anxious to help his juniors.—*New York State Journal of Medicine*, June, 1906.

Bacteriologic Findings in Fifteen Cases of Epidemic Cerebrospinal Meningitis.

It is worth while to repeat the conclusions of Robinson (*Bull. Ayer Clin. Laboratory*, June, 1906) in regard to some bacteriologic findings in cerebrospinal fever, inasmuch as it may throw light on the dissemination of the meningococcus:

"In the study of 15 cases of epidemic cerebrospinal meningitis the organism isolated from the spinal fluid, circulating blood, pus from the conjunctiva, and the central nervous system at autopsy, agrees in all respects to the diplococcus intracellularis meningitidis of Weichselbaum. It was isolated in pure culture from the spinal fluid of the 14 cases in which lumbar puncture was performed and is to be considered the causal agent in all the cases.

"This organism was obtained from the circulating blood of two of the four investigated cases, but in one only did it grow on the various culture media.

"The organism is probably only an occasional invader of the circulating blood. It may be present in the blood for many days during the course of the disease, and does not occur only as an agonal invader of the blood.

"The diplococcus intracellularis meningitidis may occur in the pus of purulent conjunctivitis, a complication not infrequently seen in meningitis. It was isolated from one of the two cases which showed this complication in our series.

Secondary infections with pyogenic organisms are frequent, and a terminal bronchopneumonia was found in five of the six cases that came to autopsy, all of which showed the presence of pyogenic cocci."

Treatment of Malarial Hemoglobinuria.

Is quinin etiologically related to malarial hematuria? It will be remembered that Koch several years ago suggested that it is the administration of quinin which causes the hemorrhage from the kidney and considerable evidence has been accumulated to sustain his contention.

Anderson (*Miss. Medical Record*, 1903) declared that malarial hemoglobinuria does not occur after an acute malarial infection, but only in patients who have been saturated with the malarial poison for a long time. He believes that quinin does not induce this disease, but acts curatively

In spite of such testimony the conviction is spreading that quinin has something to do with hemoglobinuria.

Dammermann (*Deutsche Med. Woch.*, June, 1907) reports an interesting case from Africa in which the repeated attacks of bloody urine followed the ingestion of 0.5 gram of quinin. The patient was cured by giving folia Combreti Raimbanthii, a remedy which the French missionaries had recommended.

Attention is called to Koch's statement in regard to the dangerous anuria which occurs in these cases. This author found post-mortem the uriniferous tubules blocked with disintegrated red blood cells. It follows, therefore, that attention to diuresis must be observed. Give plenty of water and the alkaline diuretics.

Pulmonary Tuberculosis in Relation to Obstetrics.

Washburn (*American Medicine*, June, 1906) discusses this very important question. Too often this subject is ignored. The tuberculous woman should not have children. She sacrifices her life by doing so, sometimes the infant is infected before birth. We give the author's conclusions:

"1. Active pulmonary tuberculosis and pregnancy constitute a dangerous complication.

"2. Pregnancy exerts an unfavorable influence on pulmonary tuberculosis both immediately and remotely during the puerperium.

"3. Measures should be taken to prevent the complication in women who are subjects of active tuberculosis. These measures may include the avoidance of marriage and the prevention of conception.

"4. If the principal involved in the question of interrupted pregnancy is right, there are, occasionally, indications in the cases under consideration. Artificial sterilization is of doubtful utility.

"5. Obstetric tuberculosis could be best treated in special institutions, for which a field exists."

Pulmonary Complications of Typhoid Fever.

Several years ago the theory that typhoid fever could be air borne, that is the patient ejected bacilli from the lungs in coughing and in this way infected others, was very popular. The conclusions of Robinson (*Bull. Ayer Clinical Laboratory*) merits attention in the pulmonary complications of typhoid:

"The typhoid bacillus not infrequently invades the lung during typhoid fever.

"It may invade areas of the lung already the seat of hemorrhagic infarction and there produce abscess formation and gangrene.

"The organism may cause bronchopneumonia.

"Lobar pneumonia as a complication of typhoid fever is usually due to the pneumococcus. This organism may be present as a general infection in the circulating blood simultaneously with *B. typhosus*.

"It is probable that both *B. typhosus* and *B. paratyphosus*, type B., can produce a massive pneumonia, lobar in type. When these organisms are the causative factors the pneumonia is of a peculiar hemorrhagic character, which may be recognized clinically from the bloody nature of the sputum.

"The typhoid bacillus is not infrequently found in the sputum of typhoid fever patients with pulmonary complications.

"This fact should be emphasized in order that spread of the disease by this means may be prevented."

Recent Studies in Measles.

Rosenberger (*American Medicine*, June, 1906) presents a very interesting summary of recent studies in measles. He calls attention to the fact that the application of mucus, blood or tears from the mucous membrane to a scarified surface does not always produce measles, yet the blood has been used in too many instances of successful inoculation to doubt that the morbid agent resides in the blood. He then continues:

"Hektoen inoculated the blood from two cases of measles into healthy adults, following which there appeared in each instance a maculopapular eruption, rise of temperature and a branny desquamation of the rash. Though not definitely stating the nature of the virus, he claims that it is present in the blood of patients with typical measles during the first thirty hours of the eruption, and still retains its virulence for at least twenty four hours when such blood is inoculated into ascites broth and kept at 37°C."

The specific cause is unknown although different observers have isolated a variety of bacteria and protozoa have been described by others. To again quote:

"Doehle noticed small oval bodies in the circulation and in the red

cells, ranging from .5 to 1 micron in diameter. Klein is quoted as having seen such bodies emigrate from the red cells and become actively motile just as if flagellated. In the red cell from which the body escaped there remained a vacuole corresponding in size to that of the emigrated body.

"Zlatogoroff isolated from the blood in 17 out of 24 cases of measles small bacilli, Gram positive, slightly motile, and usually occurring in pairs. Canon and Pielicke observed a bacillus in the blood, sputum and secretions of the nose and eyes, which persisted throughout the disease, but disappeared when convalescence set in. It was isolated in 14 cases and grown successfully only in bouillon.

"Borini noted the presence of a bacillus in the blood in several instances during the malady, which developed in cultures after thirty-six hours. It was small, delicate, Gram negative and died out after several transplantations.

"Lesage found a delicate micrococcus which grew best upon agar, stained faintly and was Gram negative. It was found constantly in measles and was not present in scarlet fever nor in a number of healthy children. In 53 children who had had the disease it was found twice.

"Von Niessen, in the blood and exanthem, discovered a bacillus which resembled the one studied by Canon and Pielicke but differed from this organism by growing upon glycerin agar and potato with a pinkish color. It was called bacillus roseus. Czajkowski observed a bacillus in the blood, while Josias failed to corroborate these findings in 24 cases.

"Arsamakor in the examination of 665 cases of measles found a club-shaped bacillus, 5 to 6 microns in length."

The author then relates some of his own observations. He studied the serum obtained by blistering the skin over the eruption in the early stage of the disease. The skin was blistered by the use of ammonia and then examined in the fresh state. He describes his findings as follows:

"Upon examination with the oil immersion lens a more or less constant hyaline body was detected possessing the following characteristics: In size it varied from .1 to .6 the diameter of a red blood cell. It was generally spheroid while ovoid or pyriform forms were also seen. It was, as stated before, perfectly hyaline and possessed or had attached to it a round or irregular oval-shaped granule of a brownish-black color which was actively motile.

"This granule traveled around the entire periphery of the body in a most delicate manner, stopping now and then, and appeared to try and

gain an entrance into the body. Where this latter phenomenon was noticed thy pyriform shape was best brought out. In two or three instances flagella were seen but never more than two. In the same specimen of fluid another hyaline body with a peculiar granule was observed in 39 out of 41 cases of measles, examined usually upon the second day of the disease. In the two unsuccessful instances the serum was not obtained until the fifth day of the eruption, when it was fading."

The Treatment of Exophthalmic Goiter.

The signs of the times indicate that an effective treatment for Graves' disease has at last been discovered. Elsner and Wiserman (New York *State Journal of Medicine*, June, 1906) publish a preliminary report on their experience.

The action of the thyroid gland is stated as follows:

"It may be assumed as a result of knowledge gained experimentally and by cautious clinical observations that the functions of the thyroid and parathyroid secretions alone or together include the neutralizing of certain metabolic poisons produced within and by the activity of the organism making their appearance in circulating blood.

"It appears to the writers that in the treatment of conditions due to change in the thyroid and parathyroid bodies it is safe to consider lesions in either one of these bodies, or in both, responsible for the unique but characteristic symptoms which have interested clinicians and pathologists since the days of Parry, Basedow and Graves.

"We are particularly anxious in presenting this preliminary report to call attention to the great importance recently given to the parathyroids in the production of symptoms. The experimental feeding with parathyroid has not yet been repeated a sufficient number of times to admit of discussion. Unless we mistake the results of the operative removal of the parathyroids we are justified in concluding that such removal is associated with a train of symptoms, resembling in all respects those of Graves' disease, including the characteristic widening of the palpebral fissure. The removal of these bodies is also followed by decrease in the size of the thyroid gland.

"The thyreogenetic theory or that of hyperthyroidisation as represented by Gauthier and Moebius must serve as the justification for the use of the antithyroid extracts or sera for the cure or the relief of the symptoms of exophthalmic goiter and kindred affections."

The theory of Moebius apparently dominates our present thera-

peutic conceptions. They report an interesting case which tends to prove that a thyroid gland sufficiently overactive causing all symptoms of Graves' disease may exhaust itself and lead to myxedema.

As regards attempts at serum therapy they write:

"Since an excess of thyroid secretion seems to be the causative factor, a rational therapy would seem to turn itself in one of two directions; either toward a positive limitation of the secretion or a neutralization of the toxins produced. The former may be brought about by the partial resection of the gland, the ligation of nutrient arteries, the injection of destructive chemicals, etc., as practiced by the surgeon. The latter—the neutralization of the poisons secreted—we hope to secure by administering the milk or blood serum of animals which have previously been made myxedematous by extirpation of the thyroid glands. The theory provides that in the blood of these thyroidectomized animals, the metabolic products or antibodies, normally neutralized by the thyroid secretion, are allowed to accumulate, and, when injected into an organism suffering from Graves' disease, these antibodies are expected to relieve symptoms by neutralizing, whatever excess of thyroid secretion is found present. Experiments leading to the developments of these principals were performed during the year 1894 by the above mentioned investigators, Ballet and Enriquez, of Paris. The thyroid gland was removed from dogs, and when the tetany, which usually follows complete thyroidectomy, was at its height the animals were killed. The blood was drawn off, dried, and administered to patients suffering from Graves' disease. The results obtained were encouraging but for some reason the researches were not continued. Somewhat later Lanz, of Amsterdam, as well as Burghardt and Blumenthal, without a knowledge of the labors of Ballet and Enriquez, worked along the same lines with considerable success.

"At the present writing antithyroid extracts appear on the market in various forms. Merck has produced a blood serum called antithyreoidin obtained from the blood of thyroidectomized sheep. It is marketed in bottles containing ten cubic centimeters with sufficient carbolic acid for preservation, and is given in doses varying from five-tenths to five grams per day. Parke, Davis & Company manufacture thyroidectin, a reddish-brown powder, precipitated from the blood of thyroidectomized animals. From 5 to 10 grains are given three times daily in capsules. In Germany some physicians, including Von Leyden, have used Rodagen, a substance precipitated from the milk of thyroidectomized goats, while others have administered the milk itself. These various antithyroid preparations are reported to have similar therapeutic properties, whether given subcutaneously or by mouth.

The milk which is less concentrated often causes gastric disturbances when given during long periods."

A report on the results of their treatment suggests that these preparations are markedly effective in the cure of the symptoms. The tachycardia, gastric symptoms, tremor, dyspnea, loss in weight showed a continued improvement, but no great effect on the enlarged thyroid gland was noticeable.

Their conclusions deserve notice:

"1. In all of our cases blood pressure study proved the disease to be one in which, despite the small and thready pulse, the sphygmomanometer showed high pressure. With an improvement in the tone and character of the pulse under treatment the measure of the blood pressure showed no appreciable reduction.

"2 In considering the efficacy of antithyreoidin we must remember that the profession has of late years given a much more favorable prognosis than formerly in exophthalmic goiter, that both typical and atypical cases show marked tendency to remission with comparative comfort during many years, and that acute exacerbations of symptoms are not infrequent.

"3. We are positive that antithyreoidin is a remedy which can be used for the relief of the annoying and alarming symptoms of exophthalmic goiter in typical and atypical cases. The greatest improvement is found in the relief of tachycardia, precordial distress and tremor. This improvement is hastened by rest in bed and close attention to diet. Rest in bed and diet alone, without the administration of antithyreoidin, will not lead to the same degree of cardiac comfort.

"4. Improvement of one or more of the symptoms of the disease is likely to follow within from three to seven days after beginning the use of the remedy. If there is no improvement of symptoms after from three to four weeks of administration, the chances are against ultimate benefit from the prolonged use of the serum. In serious cases it will be necessary to continue the treatment during many months. In all cases after the disappearance of the subjective symptoms, it will be wise to administer antithyreoidin during periods varying from four to eight weeks at intervals of two to three months.

"5. Cases without marked goiter with slight exophthalmos, tremor and the Graeffe symptoms have yielded most readily to the antithyreoidin treatment. The enlarged thyroid has become perceptibly smaller, but has not returned to the normal size.

"6. Exophthalmos, in our experience, continues to be the most

rebellious symptom, never yielding entirely to antithyreoidin treatment.

"7. Nervous symptoms usually yield as the heart becomes slower. The many fears which take possession of these patients are also relieved at the same time.

"8. The majority of our patients have increased in weight. Patients who have taken antithyreoidin during a long period feel when it is discontinued as if they had been robbed of a food to which they are entitled, and return to its use with confidence and pleasure. This statement I have received from a number of our patients while preparing this paper in answer to inquiry as to their present condition. One of our typical cases has taken in the neighborhood of forty bottles of the serum.

"9. In no case have we had occasion to regret the trial of antithyreoidin. It has always proved itself harmless. It may be given during pregnancy without fear of injuring the mother or fetus. Hypertrophied and dilated hearts offer no counter-indication to its administration.

METHOD OF ADMINISTERING ANTITHYREOIDIN.

"We have been in the habit of administering the serum night and morning in doses of from 15 to 30 minims. In mild cases the initial dose was from 10 to 15 minims. The serum may be given in raspberry syrup, may be taken in water or the elixir of orange peel. The Germans prefer a mild wine as a vehicle for its administration. In most of our cases, after having administered the serum during several weeks, we have discontinued its use for a day or two at a time."

It should not be forgotten that efforts to prepare an antitoxin against the thyroid poison have also shown some splendid results. Thompson (*Ibid.*, April, 1906) reported several cases of Graves' disease treated by the Rogers-Beebe cytotoxic serum. We feel, however, that the Moebius theory, at present, has the center of the stage.

The cytotoxic serum is prepared as follows:

"An extract of the diseased thyroid gland is passed through a rabbit's blood. After a number injections, a serum is obtained which contains a cytotoxin and an antitoxin. The serum is injected in doses of .5 to 1 or 2 cc. A very marked reaction follows, and for a day or two the patient appears to be decidedly worse; this reaction, however, soon subsides, and improvement sets in rapidly. It is remarkable to note that only a few injections are necessary to promote a cure, in some cases as few as two or three."

SURGICAL DIGEST.

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Possibilities of Appendicitis.

The possibilities of appendicitis have no limitations urges Deaver (*Georgia Practitioner*, May, 1906) in an address read before the Tri-State Society of Virginia and Carolinas. Then he enumerates a fearful lot of them. To quote:

"As a matter of course, peritonitis accompanies all cases of appendicitis where the inflammation has involved the serous coat, but short of this it does not assume the dangerous aspect that it does when it becomes circumscribed, diffuse or general, therefore, the earlier the operation is done the less danger. In my experience operation in the presence of diffuse peritonitis if done within twenty-four to thirty six hours of the onset of the attack, and due to peritonitis, is followed by recovery. The three varieties of peritonitis, circumscribed, diffuse, and general, are all of importance. The difference between general and diffuse peritonitis is that one involves the whole peritoneum while the diffuse spreads widely in the lower abdomen. I believe that many cases of diffuse peritonitis are considered as general peritonitis.

"Peritonitis is not always the destructive fatal process so commonly ascribed to it. It may be and frequently is the beneficial friend to the patient, forming a barrier between life and death's destructive agencies. The location of appendix inflammation; the plugging of perforations in the bowel; the persistent effort of the omentum (the abdominal policeman) to localize infections; all go to prove that inflammation of the peritoneum frequently serves good ends. The prognosis of peritonitis due to appendicitis depends upon the area infected, the character of the infection and whether or not early operation is instituted. Low grade infection of the entire peritoneum is more likely to result in recovery than a small area in which a high grade infection exists. Frequently a widely diffused peritonitis will be mistaken for a general infection of the whole cavity."

As to the time of operation he writes:

"There is always a time in every acute attack of appendicitis when the peritonitis is confined to the peritoneum of the appendix and contiguous peritoneal surfaces, and this is the time to remove the organ. The infection may be localized and confined to this area, but there is no certainty about it. The greater the area involved, the greater the danger to life either directly by septic absorption or indirectly by adhesions, subsequent obstruction of the bowels, etc."

Abscess of the liver, subphrenic abscess, lymphatic infections of the liver, pancreas, spleen, lungs, etc., are among the complications which he describes. In advanced cases suppurative parotitis may be a complication.

Intestinal obstruction occurs not infrequently. To quote further:

"Fecal fistula is one of the most annoying sequelæ of acute appendicitis, and the only thing to be said in its favor is that the majority of them heal spontaneously; this is not true of the fistulæ involving the small bowel. Simple fistulæ are much more liable to persist for indefinite periods, frequently remaining open until a silk or other unabsorbable ligature or foreign body is discharged. Fecal fistula high up in the small bowel should be operated early, so as to prevent starvation and the excoriating effect of the bowel contents on the surrounding skin.

"Hernia follows in practically all drainage cases. To one familiar with the anatomy of the abdominal wall, and who is skillful in intestinal work, the operation presents no serious difficulties. It is an operation requiring precision and patience, for all the adherent coils of bowel must be separated, the adherent portion of the omentum loosened and removed if need be, and the layers of the abdominal wall dissected out and united by suture each one separately. Asepsis is essential to success."

Atrophy of the Testicle.

Bangs (*American Journal of Surgery*, June, 1906) reports an interesting case of atrophy of the testicles. On one side the atrophy was due to traumatism, on the other to mumps. Incidentally he discusses some views regarding the metastasis of mumps:

"White and Martin quote from an article by Catrin, who believes that in a number of cases, after a period of atrophy and loss of consistency, the testicle regains its original volume and firmness. He made a study 159 cases and states that the orchitis of mumps occurs

in one out of three cases, that it begins in the *epididymis* and extends to the body of the testicle, and that atrophy is rarer than is supposed. If both testes are involved the inflammation is usually consecutive. White and Martin oppose this opinion and believe that the inflammation begins in the gland and not in the epididymis and that atrophy is a much commoner sequel than is conceded. As to the etiology of the testicular affection the theory of metastasis is absolutely inadequate, since it really gives no explanation, but merely is a word to describe what is not understood. An ingenious and, in some respects, satisfactory explanation is offered by Kocher. He states that the orchitis after mumps is of urethral origin. It is a specific inflammation excited by the organism, first involving the urethral mucous membrane and then extending along the vas. If this were true we should expect the inflammation to develop first in the epididymis, as in the case of most inflammations of urethral origin. With the exception of Catrin, authors generally teach that the testis is primarily involved. It must be acknowledged, however, that there are no incontrovertible arguments against Kocher's conception of the etiology, and it appeals more directly to the reason than any other theories that have been offered. 'With a better understanding of the germ which causes mumps will doubtless come a clearer understanding of the manner in which it reaches the testes.'

"In relation to the suggestion of Kocher let me call your attention to the possibility of the transmission of the causative germ by means of the urine, by reminding you of what occurs in typhoid fever. You will remember that the typhoid bacillus is found in the urine, which is now regarded as one of the sources of infection, and that in these cases the administration of urotropin has caused the rapid disappearance of the typhoid germ. It may be possible then that after all Catrin is right, and that the germ of mumps, finding its way from the posterior urethra by means of the vas deferens to the epididymis, excites the primary inflammation and extending to the testis produces there its most severe effects. The analogy leads me to make the practical suggestion that urotropin, or its congeners which liberate formaldehyde in the urine, should be administered in all cases of parotiditis in the adult."

The Repair of Cervical Laceration Without Stitches.

"There are some patients suffering from the effects of cervical lacerations who are unwilling to undergo an 'operation' or to take a general anesthetic for the relief of their condition. A method of repair for such lesions without a general anesthetic and under the circumstances of an ordinary office treatment, has some advantages. The following method has been successfully used by the author:

"First, freshen the edges of the laceration with any suitable instrument as a curette, a dull knife, or the corrugated end of a dressing forcep. This can be so easily and so rapidly done that the patient will experience nothing more than from an ordinary uterine application. After scarifying, insert a stem pessary, modified as follows. A hole is drilled the entire length of the stem of an ordinary stem pessary. Three holes of the velvet eye pattern are drilled in the shaft to increase the drainage from the cervical canal. An aluminum plate slightly larger than the disc of the pessary is now soldered to the disc. The new disc is slightly larger than the external circumference of the cervix. After the stem pessary is inserted, a strip of gauze one-half inch wide by twelve inches long, is bound around the cervix sufficiently tight to bring the edges into apposition. The only method that I have been able to use successfully in the winding is to first bind the gauze around a steel rod which has a slit at one end to receive it. The gauze should, of course, be sterilized, and I always dip one end into a saturated solution of boracic acid and permit the crystals to work up into the meshes of the gauze.

"After four or five days, the gauze may be removed and the cervix rewound. Ordinarily union will have taken place in from ten to twelve days.

"If the stem pessary is ready, this whole operation may be done in five or six minutes in the office or at the patient's home. The principle underlying the method is simply to hold the parts in apposition until union results. The author has successfully used this method in four cases, and believes that it may have a sphere of usefulness.

"It would seem as though the denudation in the method described by the doctor would give a very superficial union of structure and would be open to the strong objection of not removing the scar tissue at the edges of the lacerated cervix and especially in the angle of union between the two lips. This removal of scar tissues has seemed to be of importance, but it would be interesting if the doctor would give us some actual reports of the results from a surgical and clinical standpoint of the method that he advises."—*Annals of Gynecology and Obstetrics*, June, 1906.

The Choice of Anesthetics.

In a valuable symposium contributed to by various prominent American surgeons, W. W. Keen (*Therapeutic Gazette*, June 15, 1906) says:

"1. In perhaps 95 per cent, certainly 90 per cent, of my cases I use ether as the preferable anesthetic. It is undoubtedly less danger-

ous than chloroform. Many years ago I had two fatal cases from chloroform, both in the early stage — one before I had even begun the operation; in the other immediately after dilatation of the anal sphincter. Moreover, though I have never seen D'Arcy Power's paper, to which your letter alludes, as to the greater danger of chloroform in prolonged anesthesia, I quite agree with him in his conclusions as you state them. Furthermore, they confirm Leonard Hill's earlier experiments.

"2. I use oxygen very rarely with ether, but I do so in a considerable percentage of the cases in which I use chloroform, as I regard chloroform as safer with than without the oxygen.

"3. Sometimes I use ethyl chlorid or nitrous oxid, but not as a routine procedure.

"4. I prefer chloroform in operations about the mouth, for two reasons: *a*, That one often has to use the actual cautery, and there is no danger from the vapor of chloroform taking fire. (This danger, however, if one uses ether, can very readily be avoided by driving away the fumes of the ether by a towel or a gauze dressing used as a fan.) Besides this, chloroform is of value because it does not produce such a free flow of saliva and mucus as ether does. This is a particular advantage in operations on the tonsils, cleft palate, etc. *b*, I use chloroform much more frequently in children and in elderly people very largely on account of the small amount of mucus which is provoked by its use. I recall very vividly two cases of circumcision in children in which I used ether, and they were nearly drowned in the mucus that was suddenly poured out into the lungs. They were only saved by seizing them by the heels and allowing the mucus to run out liberally in a stream.

"It was also my custom to use chloroform and oxygen in operations upon people with renal disease. Some of the more recent experiments seem to show that the assumption that ether is more irritating to the kidneys is untrue. I am, therefore, in doubt as to whether it is an advantage, but I do not believe that it is a disadvantage to use chloroform, and hence, I have adhered to its use in these cases, but I always give it with oxygen.

"5. I use ether rather than chloroform in all operations on the brain. This I always have done largely because of my general preference for ether, but recently Cushing and others have called attention to the distinct danger in intracranial pressure caused by chloroform, which is additional reason for using ether. In cases of cardiac disease, as a rule, I think ether is the best and safest anesthetic. In long operations I would always prefer it, for reasons given above. In all operations in which it is a matter of indifference which anesthetic shall be used, I use ether.

"In operations for goiter, as a rule, I give no general anesthetic.

for two reasons: *a*, Ether particularly distends the veins, which are, of course, one of the chief annoyances and often a chief danger in operations upon goiter; and *b*, especially in doing an extirpation operation I prefer to have it possible to engage the patient in conversation in order to warn me of any possible danger to the inferior laryngeal nerve. Sometimes even in cases in which, before I began the operation, I expected to do an enucleation, I have been compelled for various reasons to proceed to extirpation, and if a general anesthetic had been given I should not have been able to avail myself of this advantage in avoiding the nerve.

"In any case in which the hemoglobin is below 50 per cent, great caution should be used in the administration of either chloroform or ether, as they lessen the percentage of hemoglobin, as Chalmers, Da-Costa and Kalteyer have shown, and where the hemoglobin falls below 30 per cent only emergency would justify the use of general anesthetic. If it is possible to use local or spinal anesthesia in these cases, it is much preferable.—*Memphis Medical Monthly*.

Technic of the Gant Operation for Anal Fissure.

The advantages claimed for the Gant operation are that it is quickly performed, no general anesthesia is required and cures promptly in every case. From the *Medical Record*, April 28, 1906, the following technic is taken:

"The patient, previously prepared, is placed upon a low table in the lithotomy position, or upon his left side with his legs flexed upon the abdomen. The buttocks are held apart by an assistant; the operator then seizes a fold of skin in the median line one inch from and posterior to the anal margin and compresses it between the thumb and forefinger to lessen the pain caused by the puncture. A syringe holding not less than one ounce, filled with sterile water or fitted with a Gant curved extension piece and sharp needle, is filled with sterile water or, preferably, $1/8$ of 1 per cent eucain solution. The needle is introduced between the layers of the skin and a sufficient amount of the solution is injected to produce a whitish swelling, which indicates anesthesia at that point. The needle is then inserted further and further until anemia of the skin from the point of entrance up to the anal margin has been produced. It is then directed inward and a sufficient amount of the solution deposited to form a firm, round, whitish tumor about the size of a pigeon egg. The external sphincter and posterior rectal wall for a distance of one and half inches are now injected and anesthetized in a similar manner, when the operation can be proceeded with painlessly.

"In producing local anesthesia by this method, it is not necessary to waste time in endeavoring to locate any particular nerve branches, because absolute anesthesia is immediately obtained where a sufficient amount of the solution has been deposited to produce edema, or anemia of the part to be incised. The only instrument used in this operation is a strong pair of scissors having fairly long blades, one of which is sharp and the other probe pointed. The sharp pointed blade is pushed through the skin in the median line, one inch posterior to the anus; at the same time the probe pointed blade is inserted through the anal orifice; the scissors are now pushed upward for a distance varying from one and a half to two inches, when with one bold cut all the tissues between the blades are severed, making a triangular wound in the posterior median line, two inches in length and half an inch in depth, which includes the skin, subcutaneous structures, sphincter muscle, posterior bowel wall and adjacent tissues behind it. Skin tags or piles are not excised and the wound is lightly packed to prevent bleeding; it is then covered with a gauze pad kept in place by a well adjusted T-binder.

"The postoperative treatment following this procedure is most simple and consists in cleansing the wound daily after each stool and inserting a piece of gauze loosely in the cut as a drain to keep the edges apart. After the first week the gauze is moistened with ichthyol or balsam of Peru to stimulate and increase the healing process.

"These patients are not confined to their rooms, they are permitted to eat whatever they choose and are advised to secure at least one semisolid action daily in order that the feces may not become hardened and injure the wound when expelled.

Tympanic and Mastoid Cholesteatoma.

Barstow (*Med. Record*) reports a very interesting case which proves more edifying reading to the specialist than it will to the general practitioner. He sums up "the interesting and unusual features" as follows:

Time in hospital, eight weeks and four days.

Time during which pyemic temperature lasted, seven weeks and five days.

Metastatic abscesses, none.

Number of chills, thirty-nine.

Highest temperature, 107.8°, in axilla.

Lowest temperature, 96°, in mouth.

Range of temperature, 11.8°.

The patient recovered.

S. S.

Headache and Neuralgia from Troubles in the Nose and Accessory Sinuses.

Joseph A. White, Richmond, Va. (*Mobile Med. and Surg. Jour.*)
The perplexity of the practitioner in case of obscure headache is mentioned in introducing this subject and the author says that while headache can be relieved by anodynes that this does not give the cure the patient expects. While the term "nervous neadache" is used to cover our ignorance, the writer says it really does express exactly what the trouble is.

Passing over headaches related to eye trouble he say "many pathological conditions in the nose can produce reflex irritation of the trigeminal branches, and cause these nervous headaches." The upper air passages are so richly supplied by branches of the trigeminus that any condition causing pressure on these would bring about a headache through irritation. He advises a careful examination of the upper air passages even in patients who feel satisfied that they are in no way affected. Citing the fact that a bad cold can produce a headache, and that he has seen headache, frontal, temporal and in the upper jaw, resulting from cautery of the middle turbinate, he says,—“Now if this slight irritation would produce such a condition how much more natural it is to expect the some or worse results from continued pressure of an enlarged turbinate or from a spur growing from the septum and pressing into the turbinate.” He further states that these conditions can be present without interfering to any great extent with nasal respiration and without the presence of any discharge so that the patient may be entirely ignorant of their presence. Even adenoids produce headache, especially pain in the back of the head. “Trouble in the ethmoid cells and especially in the frontal sinus produce severe headaches, which are sometimes agonizing ”

After citing ten cases illustrative of the points mentioned, the writer takes up the discussion as follows: “Now, I do not pretend to say that every subject of nasal trouble has headache, because that would be as far from correct as to state that all people with refractive and muscular error have headache, as neither would be true.” He thinks, however, that a large number who have headaches could find the source of them in the nose and the nasopharynx. He thinks it is a hard matter to explain why some have these reflex pains and others

do not from the same causation. He concludes that it is due to the difference in the condition of the centers and their resisting powers.

"Constitutional causes which lower the resistance of nerve centers, such as malarial and rheumatic changes, imperfect digestive apparatus and excess of uric acid may undoubtedly help to keep up the malign influence; but after the train of symptoms has once started, the source of local or peripheral irritation must be done away with before constitutional treatment prevails." He advises surgical treatment of the local conditions and attention to the patient's general health.

S. S.

Anatomy of the Inguinal Region.

The following summary of an important article by Witherspoon (*Journal A.M.A.*, May 19, 1906) on the anatomy of an important region of the body deserves special notice:

"The internal abdominal opening is located in the extraperitoneal fatty tissue.

"Hesselbach's ligament is formed by fibrous bundles which connect the outer end of the semilunar fold of Douglas with the inner margin of the internal abdominal opening. These bundles are developed chiefly in the extraperitoneal fatty tissue. Along the route of these bundles there exists between the fatty tissue and the transversalis fascia a close union. During intra-abdominal pressure, Hesselbach's ligament, due to its resistance, helps to increase the size of the internal abdominal opening.

"In the inguinal area the internal surface of the abdominal wall is divided into two planes by Hesselbach's ligament. Normally, the plane lateral to this ligament is only slightly anterior to the plane median to the ligament. When the muscles of the lateral plane are weakened by disease or are enfeebled through advanced age intra-abdominal tension greatly exaggerates this difference. As the internal abdominal opening is situated at the junction of these two planes, the greater the difference the more patulous the opening and the greater the possibility of escape of a viscus through the opening.

"The transversalis fascia does not join Poupart's ligament at any point.

"The deep crural arch is formed by the junction of the transversalis and cremasteric fasciæ in the arch in front of the external iliac vessels as they pass into the thigh. The free (posterior) edge of Gimbernat's ligament is just external to and parallel with the deep crural arch.

"The fibrous bundles which pass out of the pelvis into the so-called conjoint tendon give to the abdominal wall its chief strength internal (posterior) to the inguinal canal. The aponeurosis of the transversalis muscle strengthens the wall just internal (posterior) to the external abdominal ring.

"The base of the so-called conjoint tendon, the lateral margin of which is formed by the fibrous bundles which enter the tendon from out of the pelvis, is the constricting agent in femoral hernia. A Spanish surgeon, Gimbernat, attributed this agency to the structure which has since been given his name.

"The so-called conjoint tendon was in no instance formed by a union of fibers from the internal oblique and transversalis muscles in the subjects dissected. Judging from the usual anatomic arrangement this union seems quite impossible.

"The external abdominal opening is situated between the dividing fibers of the aponeurosis of the external oblique muscle. The external abdominal ring is situated in the periaponeurosis which covers the external abdominal opening."

Operation for Barlow's Disease.

As is well known, scorbutic rickets, or Barlow's disease is not infrequently mistaken for rheumatism. Heubner has related an instance where he saved a child from an amputation which was to be undertaken for a supposed sarcoma of the thigh but which proved to be a scorbutic epiphysitis.

The disease readily yields to dietetic measures—fresh milk and fruit juices, but Riese (*Deutsche Med. Woch.*, No. 21) believes that in very severe cases of hematmata a great advantage is to be gained by making a small opening and allowing the blood to discharge. The cure is hastened in this way, the severe pains relieved at once and no thickening of the bone or osteophytes remain.

He reports an interesting case: The patient, a boy, aged 14, was referred to the writer for operation on account of a multiple osteomyelitis. The child had a high fever, the tibia and the femur were enormously swollen and very tender. Examination of the gums, however, revealed the typical sign of scurvy. Examination of the swelling showed a absence of inflammatory infiltration in the structures surrounding the bone. He regards this as a valuable differential sign in diagnosis.

By means of a small incision the fluid blood was emptied and the wound packed. The result was very gratifying.

YESTERDAY AND TODAY.

DEPARTMENT EDITORS.

Dr. E. A. Babler, Surgery.

Dr. Adrian Bleyer, Medicine.

Carcinomatous Breasts.

We know not the time when cancer first appeared. The ancient Greeks possessed a very good clinical idea of cancer; they portrayed quite accurately cancerous metastases and prescribed treatment not differing, especially in the palliative sense, from that in use at the present time. Gradually practitioners began to advise surgical intervention. When we recall the technic employed in the removal of cancerous growths in the breast a shudder fleets o'er us. In an ancient pamphlet I found the following:

"The treatment of cancers involving the breast of females is heroic. When the growth is small it may be removed by a crucial incision. When the entire mamma is involved the breast is caught up by an assistant with either one or both hands, raised from the chest wall, while the surgeon removes it. Sometimes the breast is held firmly by a clamp of metal over the shoulder, attached by a thumbscrew to two semicircular ones which surround the breast. The latter arms of the clamp are forced together tightly and locked, serving at the same time as a guide for the incision. A sharp knife removes the breast. Lint, saturated in hot beer in which has been dissolved a piece of butter is applied to the bleeding surface, compresses applied and the parts bandaged."

Just think of it, all of this was done without an anesthetic! It seems unnecessary to question concerning recurrence. We naturally thank God that we live in the age of modern surgery.

In the *Lancet*, 1825, we find the appended report:

"G. H., in Charity Ward, the mother of a family, had felt for some time severe pains in the left breast, of a darting lancinating kind, accompanied with great hardness and tenderness of the gland. The disease appeared at present to have confined itself entirely to the breast, since she has no uneasiness or pain in the axillary glands or any adjacent parts. Upon her applying for advice, the nature of the disease was made known, and she was recommended to submit to an

operation while the case remained as favorable, to which she readily consented.

"Mr. Key commenced by making an incision about two inches from the sternum, opposite the cartilage of the fifth or sixth rib, passing three-fourths of an inch above the mammary, in an oblique direction, and then downward and backward, its whole course measuring about three and one-half inches; a similar incision was then made the same distance below the nipple, commencing and terminating at the same point, in this way completely insulating the mammary glands. After this he dissected out the gland, laying bare at the bottom of the wound the fibers of the pectoralis major. The edges of the incision were then brought together and retained by a single suture assisted by adhesive plaster."

Our sires did the best (?) that they could under the circumstances. Indeed, we find practitioners today who persist in palliative measures for the removal of a tumor of the breast! The day of delay is fast passing. Progressive practitioners throughout the civilized world are teaching the importance of removal of every tumor of the breast at the earliest possible moment. Today we know that practically 80 per cent of the suspicious tumors appearing in the female breast are cancers. We appeal to every country practitioner to awaken to a full appreciation of this fact; it is to the dear "family doctor" that these unfortunate women apply for advice; it is oftentimes upon his advice that they hesitate. Only too often does the delay cost the patient's life; only too often do we permit the disease to wend its way along the lymph channels until surgical intervention is of no avail.

Whenever a tumor is found in a woman's breast it should command *immediate* consideration. We need no longer work blindly. By means of the modified Thomas' technic the suspicious growth may be removed without destroying the appearance of the gland. In every instance a trained pathologist should be present and, by means of frozen sections, determine the character of the growth. Practically, every well regulated hospital is thus equipped. Warren, of Boston, has clearly demonstrated the importance of frozen section diagnosis.

Concerning the treatment of mammary cancer I need not say more than that the Halsted technic is the one most generally employed. It is very essential that the axillary dissection be completed before the breast proper has been disturbed. Warren has added much to our knowledge concerning this subject. His technic will be accorded consideration under Surgical Digest.

Relative to cancerous infection during the operation, Warren has said:

"It is my habit to act upon the supposition that such danger exists, and throughout the operation to attempt to keep the parts exposed protected as much as possible by gauze packing. The operation which I have described has the advantage that nine-tenths of the wound is not exposed or in fact touched by an instrument until the close of the operation, presenting, therefore, much less danger of such infection than wounds that may have been wide open for hours."

Let us remember—Never tell a patient that the small, apparently insignificant tumor in her breast is not serious. Delay may cost the patient's life. Have the tumor removed and examined at once.

Since we know that cancer extends along the lymph channels and that the so-called recurrence simply means that we have failed to remove all of the diseased tissue at the primary operation, it is very essential that the operation be performed at the earliest possible moment, and before the extension has passed beyond the reach of the surgeon's knife.

E. A. B.

Non-Union of Fractures.

One of the pressing questions which perplexed the surgeons of the Seventeenth Century was—what caused non-union of fractures? The same question presented itself to Cooper, Colles, and Abernathy. The latter attempted to explain by saying:

"I am satisfied that the cause of non-union of fractures is a certain state of the constitution which renders the vascular system of the injured part incompetent to secrete the ossific matter."

A few believed that pregnancy, old age, etc., played important factors; Colles felt sure that secondary syphilis was a frequent cause, while scrofula was an undoubted factor. Concerning non-union of fracture of the femur, especially intracapsular, he said:

"I do not believe that osseous union can take place, and am sure that those who say that they have seen it have mistaken diseases of the head and neck of the thigh-bone for fracture; I have many specimens that might be so mistaken, if the previous history of some of them was not known. I must declare that I have never found anything like osseous union of a fracture of the cervix femoris."

Sir Astley Cooper studied the subject very carefully; he was of a similar opinion, and said:

"The reason that fracture of the thigh-bone does not unite is that the ligamentous sheath and periosteum of the neck of the bone are torn through, that the bones are consequently drawn asunder by the muscles and that there is a want of nourishment of the head of the bone.

"I can readily believe that if a fracture should happen without the reflected capsule being torn, that as the nutrition will continue, the bone might unite; but the character of the accident would differ; the nature of the injury could scarcely be discerned and the patient's bone would unite with little attention on the part of the surgeon."

As to the treatment of non-union of fractures, Abernathy thus spoke:

"A gentleman in America (Dr. Barton) proposed that in those cases where union did not take place, instead of cutting down upon the bone and removing a portion of it, to pass a seton between the surfaces and in this way excite a sufficient degree of irritation in the parts that might lead to deposit of adhesive, and afterward ossific matter.

"It has often been requested by patients who have had fractures to have the extremity removed. Formerly it was very much the practice with surgeons to do so, but I do not think it commendable. I believe that by keeping these fractures, in which flexible union has taken place, perfectly quiet for a longer time than is usually done, many such cases will unite."

The painstaking and thorough researches of Nicholas Senn and others have demonstrated that practically every case of fracture will unite properly provided the fragments are correctly apposed and the parts immobilized. The failure to secure union usually lies in the treatment followed; only too often do the fragments override; only too often is the bandage improperly applied.

Today we employ the Roentgen rays to determine the exact position of the fragments; we do not delay until weeks after the occurrence of the accident. Delayed union is different from non-union. Even though the fragments override, Nature attempts to do her part; her efforts, however, are not sufficient to render the limb efficacious. The surgeon must step in and render assistance. Concerning the

proper course to follow in cases of ununited fracture of the long bones, Sir Frederick Treves has said:

"In dealing with ununited fractures of such bones as the femur, the humerus, the tibia and the radius, the operative measure which appears to me to be the best, the simplest and the most complete, consists in resecting the ends of the broken bone and then retaining them in accurate apposition by means of splints. Of the different measures of which I have myself made use none have given such satisfactory results as has this simple procedure.

"In neglected fractures of the thigh, in which non union has followed, I have kept the patient in bed for a week or so before the operation, and have applied extension during the whole of that time in order to overcome the shortening produced by contracted muscles and to bring the limb into a good position, This preliminary measure allows the swelling which often surrounds the seat of the fracture to subside and enable the surgeon to make a trial of the splint he proposes to employ after the operation."

American surgeons lean to the employment of silver wire; few advocate plates and screws, but Treves contends:

"As a practical measure the wire is a delusion and a snare, so far, certainly, as the long bones are concerned. Equally fallacious and dangerous are the various forms of apparatus in which plates of metal are secured (outside the skin) to the fractured bone by long screws."

Just why a fracture fails to unite after the fragments have been properly exposed, their surfaces properly cared for and apposed, and thereafter efficiently immobilized is quite obscure. In these cases repeated excision may prove inefficient. Sometimes, perhaps, it is due to change in the fragments. Treves emphasizes the fact that, "mere sawing off of the ends of the bones is not sufficient, nor is the mere bracing of the broken extremities all that is required. The bones must be fashioned and be so moulded with the chisel that they may be brought into proper contact."

The secret of success in the treatment of fractures is, I think, proper reduction of the fracture and efficient immobilization of the fragments. In all fractures where the least doubt exists, the Roentgen rays should clear up the doubt and anxiety. A picture obtained during the first few days immediately following the accident will be of inestimable value to the surgeon.

E. A. B.

NOTES AND ITEMS.

The Medical Library Association.

We have frequently called attention to the progress made by and the advantages extended by the St. Louis Medical Library Association. Below we present the report of Dr. Lutz, the Librarian, which speaks for itself.

The single regret remains present—too few physicians are members of this valuable Association. It is to be sincerely hoped that the next report will show the enrollment 500 in place of only 184.

SEVENTH ANNUAL REPORT OF THE LIBRARIAN.

In presenting the Seventh Annual Report as Librarian of the St. Louis Medical Library Association I felicitate its members upon the unusual prosperity which the Library has enjoyed during the past year. There have been added 3315 volumes making the total number of bound volumes 8647. Of these, 1800 were loaned to this Association by the St. Louis Public Library and the remainder are contributions from the following individuals:

N. B. Carson	15	A. F. Stauffer	7
Mrs. A. Derivaux	20	T. R. Neilson	1
L. T. Riesmeyer	3	C. D. Aaron	1
Mrs. W. M. McPheeters	50	J. H. Duncan	1
S. I. Schwab	1	H. Ehrenfest	10
S. T. Armstrong	1	C. H. Frazier	1
E. C. Gehrung	135	A. B. Judson	1
R. M. Funkhouser	13	Mrs. R. M. King	110
G. D. Hersey	1	Mrs. S. Pollak	1
C. M. Nicholson	21	A. F. Bock	131
G. Homan	2	A. M. Harder	1
S. G. O. Washington	1	F. M. Rumbold	125
L. O'Connor	1	G. M. Gould	1
L. L. McCabe estate	30	F. C. Curtis	1
J. E. Newcomb	1	George M. Tuttle	5
A. H. Ohmann-Dumesnil	15	W. H. Fuchs	5
O. F. Potter	3	John Zahorsky	2

O. F. Ball	1	J. M. Ball	6
B. J. Brostol	40	L. M. Warfield	3
E. H. Gregory estate	630	G. Baumgarten	7
St. Louis Derm. Club	1	F. J. Lutz	105
St. Louis Surgical Society		5	

The Association is composed of 184 members; of these 87 are active, 95 associate and 2 life members.

A relatively small proportion of the physicians of this city are members. The question as to the manner of increasing our membership has been a subject for discussion a great many times by the Board of Trustees and efforts have often been made to interest others in the Library. Although the permanency of our institution is, I think, no longer questioned, yet its sphere of usefulness should be greatly widened. It will be impossible to do this without increasing our membership and I would earnestly recommend that the active members take this matter up in a systematic manner and endeavor to secure additional members.

We receive regularly 137 medical journals, an increase of 11 over last year. Of these, 17 are donated by physicians of St. Louis; 72 are contributed by the publishers and we subscribe for 15 American and 42 foreign journals.

The indexing of the original subject matter contained in the medical journals has been continued and extended. We now index 75 of our journals, thus materially increasing the usefulness of the Library.

It also gives me great pleasure to call attention to the splendid example which the St. Louis Surgical Society and the Bethesda Pediatric Society have set to other Medical Associations of this city. The St. Louis Surgical Society has again contributed \$50 for subscriptions to the surgical journals and the Bethesda Pediatric Society has subscribed for 8 of the prominent periodicals devoted to diseases of children.

There were bound during the year 235 volumes. We have, however, 300 volumes which require binding and which we hope will be bound during the coming year.

It also affords me much pleasure to announce to the members that the St. Louis Mercantile Library will transfer to us all its medical books and journals as soon as the official notice can be forwarded to them that the conditions which they require have been complied with, namely, to place at the disposal of persons properly accredited by them

the use of the books donated by them and those of our Library. I am not prepared at this time to state how many volumes will be added by this gift, but the constant increase of our Library necessitates the erection of additional book stacks and shelves and the space at our disposal upon the second floor is entirely inadequate and some provision must be made for securing additional room. With this end in view I have requested and received a sketch and a bid for changing the third story front room by inserting four windows and plastering the room and providing a stairway from the second to the third floor, all of which can be done if contracted for now, for \$490.

This will give us a large room in which accessions to the Library can be stored for many years to come.

I have also had examined the walls and other structures of our building in order to determine whether the building is strong enough to carry the weight which will necessarily rest upon the third floor if the alterations suggested are made, and I am assured that the building is strong enough to carry this weight without danger.

I wish to express my appreciation of the cordial coöperation of the members of the Board of Trustees.

FRANK J. LUTZ, M.D., Librarian.

Temple Sleep.

It was firmly believed by the Greeks as early as the Sixth Century B.C. that he who slept in a temple would be surely cured of any physical disorder. Dr. Hugo Magnus, in his new book, "Superstition in Medicine," says that a tablet found in the temple of Æsculapius at Epidaurus tells us that a blind man by the name of Hermon, a native of Thases, had recovered his sight by sleeping in the Epidaurean Temple of Æsculapius. However, it appears that this man Hermon had been a miserable wretch, for he had disappeared without having expressed his thanks in cash. Naturally such ingratitude provoked the god, and summarily he blinded the thankless individual again. It required a second temple sleep before the god condescended to become helpful once more. But our tablet does not mention anything about the amount of the remuneration paid by our friend Hermon who had been twice cured of blindness. The miraculous tablet, even without stating the price, doubtless made sufficient impression upon the minds even on the most parsimonious of future patients.

BOOK REVIEWS.

Human Sexuality.

A Medico-Literary Treatise on the Laws, Anomalies, and Relation of Sex, with especial reference to the contrary sexual desire. By J. Pichardson Parke, Sc.B., Ph.G., M.D., Late Acting Assistant Surgeon, U.S. Army. Professional Publishing Co., Philadelphia, 1906.

This is an admirable treatise on the science of sexuality which has received increased attention in recent years. It consists of a well-written book, very interesting and full of facts, mostly culled from literature.

It will be found most serviceable to all physicians and biologists as an up-to-date compendium on the physiology and pathology of the sexual instinct.

Sometimes this author seems to make certain shameful truths unnecessarily vivid in portrayal; yet it must be admitted that to be a good pathologist the minute dissection of a putrid corpse is sometimes necessary. Here and there we notice a flippancy of style which detracts from the scientific value of the book although, perhaps, it makes the interest in its reading greater.

We believe that the knowledge of this book should be generally disseminated among physicians and educators; it is only by recognizing the diseases that means for their eradication can be sought.

A Compend of Operative Gynecology.

Based on Lectures in the Course of Operative Gynecology on the Cadaver at the New York Postgraduate Medical School. Delivered by William S. Bainbridge, M.D., Adjunct Professor of Operative Gynecology, etc. Compiled with Additional Notes in collaboration with Harold D. Meeker, M.D., Instructor in Operative Gynecology on the Cadaver, New York Postgraduate School. The Grafton Press, New York.

This is a most valuable compend, giving only the technic of gynecological operations, and must be very serviceable to the medical student and gynecologist. To the general practitioner who must do operations occasionally, reading over a few pages before the operation, must refresh the memory as to details easily forgotten.

The Influence of the Mind on the Body.

By Dr. Paul Dubois, Professor in the University of Berne, author of the "Psychic Treatment of Nervous Diseases." Translated from the 5th French edition, by L. B. Gallatin. 12mo, by mail, 54 cents. Funk & Wagnalls Co., New York and London, 1906.

Every physician should read this monograph, for the profession, as a rule, is too prone to overlook psychic influence in the treatment of disease. This is a good book to recommend to the intelligent layman. It is, perhaps, true that "these nervous affections which are accessible to mind cure are more frequent than bodily illnesses and that great progress would be made in the public health if, by voluntary

influence of the mind over the body, we knew how to stop in their development these strange evils which are more mental than physical."

Abbott's Alkaloidal Digest.

A brief description of the Therapeutics of some of the principal Alkaloidal Medicaments and other success-makers, with suggestions for their Clinical application and embodying various articles on important special agents and certain great phases of Alkaloidal Therapy that have been developed in the personal practice of the author and his colleagues. By W. C. Abbott, M.D., editor of the "American Journal of Clinical Medicine." The Clinic Publishing Co., Chicago, 1906.

Not only devotees of pure alkaloidal therapy but any physician can learn much from this compend. The practice of giving small repeated doses until the effect is produced is a safe and popular method. To the physician who carries his own medicine, alkaloidal therapy must be eminently satisfactory.

Uric Acid.

The Chemistry, Physiology and Pathology of Uric Acid, and the Physiologically Important Purin Bodies, with a discussion of the Metabolism in Gout. By Francis H. McCrunden. 318 pages. Price: Canvas, \$3.00; Paper, \$2.50, net. Paul B. Hoeber, 69 East 59th street, New York.

This is a masterly review of the whole subject of uric acid and presents all the results of investigations by hundreds of different authors. One is astounded at the tremendous energy that has been expended in trying to explain the uric acid diathesis and gout.

And yet what is the practical result of all this work?—nothing definite. One of his conclusions must be given:

"It is plain that no definite explanation of gout has yet been given that is correct. * * * More data are necessary concerning the metabolism in gout before we are warranted in offering any definite theory of the cause of gout."

This work is from the laboratory of physiological chemistry, Harvard Medical School, and deserves study.

Surgical Suggestions.

Practical Brevities in Surgical Diagnosis and Treatment. By Walter N. Brickner, M.D., Chief of Surgical Department, Mt. Sinai Hospital Dispensary, New York; editor "American Journal of Surgery," and Eli Moschowitz, M.D., Assistant Physician, Mt. Sinai Hospital Dispensary, New York; editorial associate, "American Journal of Surgery." 12mo, 60 pages; Cloth, 50 cents. Surgery Publishing Co., New York, 1906.

This little book is most novel, not only on account of the many original terse and epigrammatic practical suggestions given, but its general appearance and attractive form. It contains 250 suggestions grouped under proper headings and its contents is carefully indexed. While some of the items are familiar to the practical surgeon, they are presented in a manner that will impress them on the reader's memory. The book is bound in heavy cloth, stamped in gold, and the text is print-

ed upon India tint paper with marginal headings in red. This book will be much appreciated by the general practitioner, not alone on account of the value of its contents, but as an artistic bit of book making.

State Board of Health and Vital Statistics of the Commonwealth of Pennsylvania. 1904.

While most of the reports in this work have only a local interest, there are some articles of general value to the reader. Thus the report on the inspection of the Glendolen Biologic Laboratories (H. K. Mulford & Co.) show the excellent condition of this institution.

Analyses of water, reports on epidemics, etc., will form a most valuable source of information for the sanitarian.

The Physical Examination of Infants and Children.

By Thorn Wendell Kilmer, M.D., Adjunct Attending Pediatricist to the Sydenham Hospital, etc. Illustrated with 59 halftone engravings. F. A. Davis Co., Philadelphia. 1906.

This is a very valuable guide to the examination of children for students and physicians who wish to improve their methods in practice. Some of the descriptions are most too brief and it is far from being complete.

The World's Anatomists.

Concise Biographies of Anatomic Masters, from 300 B.C. to the present time, whose names have adorned the literature of the Medical Profession. By G. W. H. Kemper, M.D., Professor of the History of Medicine in the Medical College of Indiana, Indianapolis, Ind. Revised and enlarged from the original serial publication in the "Medical Book News." With 11 illustrations, 9 of which are portraits. P. Blakiston's Son & Co. Publisher, 1012 Walnut street, Philadelphia.

Wine and the Soul.

Many curious hypotheses incumber the days of early medicine. Among the most monstrous guesses at truth was the theory of Heraclitus, of Ephesus, 500 B.C., thus propounding the relations between wine and the human soul. "Superstition in Medicine" thus gives it:

As the soul, according to this philosopher, naturally was a fiery vapor, and the drier and more fiery it remained the better, the excessive use of alcohol would not be advisable, in that the abundant infusion of fluids causes the soul to become wet, which would be harmful to its fiery nature, as fire and moisture are always incompatible.

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EDITORIAL COMMENT.

Serum Treatment in Scarlet Fever.

Judging from a recent report of Ganghofer, the enthusiasm for the serum treatment of scarlet fever seems to be dying out. Some cases are benefited, in others little favorable action can be observed. This disease varies so much in severity that it is exceedingly difficult to estimate the therapeutic efficacy of any treatment. The serum may be tried in very septic cases where ordinary treatment seems to lack efficiency; it can not be recommended for general use, however, since the injection of large quantities of serum is by no means a negligible procedure as to untoward effects.

Ascaris Lumbricoides.

Is it not singular that cases of "worms" are not often reported in our medical literature at present? It has not been many years since the round worm was considered a common cause of a variety of ailments in children. Convulsions and meningismus may be induced by these parasites, and some Italian investigators have found a powerful toxic substance in an extract of round worms to which these general symptoms must be referred.

We no longer agree with Butter who declared them to be Nature's remedy for destroying the superabounding morbid humors, and to be the natural force by which the peristalsis of the intestine is produced.

Still, who knows but that someone will attempt to cure chronic constipation by feeding a few ova of the ascaris to the patient. Some recent work in opotherapy reminds one of just such therapeutic deductions. The irony of it all is that however repugnant certain parasites appear to us, this fact does not destroy its possible benefit to the human race; hence, experimentation must be continued. The extract of lumbricoids may yet be utilized as a mydriatic. The extract of the spleen may cure malaria but more proof will be demanded than that offered by Carpenter.

Superheated Air and Artificial Hyperemia.

Since Bier's method of producing passive congestion has taken a positive place among our therapeutic armamentarium it is in order to call attention to other methods of producing hyperemia. The hot water bag is well known and its efficacy sometimes forgotten. Dr. Skinner a few years ago called attention to the local and general use of superheated air in the treatment of septic infections, a procedure which might be adopted with benefit in many cases where the bandage can not be effectively applied. The production of hyperemia by the constricting bandage has the advantage in that all the tissues are involved in the hyperemia, while external irritants, including superheated air, do not penetrate much farther than the skin.

Anemia or Hyperemia.

The practitioner often has a hard task of determining which of two methods to use. To operate or not to operate is a question that perplexes the most astute. Shall we use heat or cold is another question of supreme importance and it is usually decided by the patient; if he objects to one, the other is used. Now, the question of anemia or hyperemia must become another perplexing problem. It is known that the production of anemia is very helpful in many infections. The iced pledgets and opium applications in conjunctivitis are familiar. The ice bag does great service in appendicitis even if the surgeon scouts the medical treatment. Pressure has been successfully used in orchitis and synovitis to combat inflammation and infection. Pressure is often employed in inflammations of the external auditory canal.

Shall we use measures that produce anemia or hyperemia? Are these means interchangeable? Has each of these means some definite indication?

Looking at the subject reflectively brings up many interesting questions. It is strange that a certain desired end may be obtained by such opposite reactions as anemia and hyperemia.

Wasting Time.

It was reported that Dr. Lorenz on his visit to America regarded the habit of having one's shoes shined in public as a curiosity. "Why," he asked, "if time is money in America, is it absolutely necessary for me to be present every morning when my shoes are being cleaned? Is it not a loss of a quarter of an hour?" A similar question may be asked concerning the practice of going to the barber shop every day for a shave. The time lost in waiting and in being shaved can easily be placed at one half hour. He might shave himself at home with the up to-date safety-razor in six minutes. When time is worth several dollars an hour, this asset should not be wasted. Yet, something can be said even for the half-hour's rest while the shoes are being polished. Some men need this rest and will take it no other way.

Cancer Again.

Every now and then some cancer laboratory announces that some important discovery has been made and that a rational and effective therapy will soon be inaugurated. This announcement is profusely illustrated by photomicrographs of some sections of cancer cells and some drawings of a presumptive parasite. The British Cancer Fund Commission announce that carcinoma can be produced at will in mice and these animals can be made immune. But how far this is from curing cancer in the human being is illustrated by the sad stories of several infectious diseases. Let us hope, but as yet there is little light to give us encouragement.

Meanwhile, we entertain ourselves with listening to the new treatment originated by John Beard, of Edinburgh, who recommends that the ferments of pancreatic juice be injected into the cancerous masses. These injections are believed to cause an atrophy of the growth.

Beard has succeeded in saving two mice who were infected by Jensen's tumor. It is known that the ferments injected into the tissues cause necrosis and it is extremely unlikely that trypsin has any specific action on the cancer cells; hence, such an article as was published in *McClure's* is premature and may result in much harm.

Blindness and Legislation.

Does it not seem strange that legislation should be considered necessary to urge physicians and midwives to do their duty? At least that is what the resolution of Park Lewis at the Boston meeting of the American Medical Association really means. We question very much that blindness due to ophthalmia will become very much reduced by such legislation. The disease is certainly much less dreaded now than formerly, and Credé's method is more generally used; consequently, an additional legislative act seems an unnecessary burden on the statute books. It is well, however, for the Boards of Health to add ophthalmia neonatorum to the list of contagious diseases, it will make the physician more circumspect if they are compelled to report these cases.

The State of Morbid Imminence.

A term which on its face promises to become the expression of a practical concept has been recently used by Londe in an interesting article (*Semaine Medicale*), and that is the "State of Morbid Imminence." He insists that some depression of the nervous system or clogging of the alimentary canal always precedes any acute disease. Rest, and dietary measures can often ward off the diseased process.

We believe this writer has given us a valuable conception in a practical form. Our observation corroborates the statements of Londe. Very often a depressed condition of the nervous system precedes the illness. It is probable that the opsonic power of the blood is greatly reduced during the depression; in other words, the natural resistance is greatly diminished; hence, the disease is likely to occur.

It was Hueppe, if memory serves us right, who insisted that the predisposition and not the infection was really the disease. We shall in the future diagnosticate the "State of Morbid Imminence" and thus be able to prevent the coming infection. If we die of a terminal

infection in old age, it is possible that the acute disease of youth is also a terminal phenomenon.

Hay Fever.

There is a distinct tone of regret in many articles concerning the inefficiency of the antitoxins of pollen grains in the treatment of hay fever. Something is still lacking in the preparation of this drug. Meanwhile, the unfortunate victims are still using all kinds of palliatives. Walner has reported a marvelous cure by the application of iced water to the forehead and face. This is probably in line with the thousand-and-one remedies which have cured one case. Verily, diseases depending on some slight derangement of nerve function, have the most erratic tendencies. Even osteopathy cures some of these cases. Christian science also has many cures to its credit, but there are still thousands who are still seeking a specific. These might have their faces frozen.

Carbon Dioxid.

The contradictions of modern medicine are too frequent to merit astonishment; one investigator finds one thing, the other asserts the contrary to be true. Not many years ago, some experimenters apparently demonstrated that an increased alkalinity of the blood favors the healing powers of the body. This increased alkalinity was favored by an augmentation of carbon dioxid. Hence, a hypercarbonization of the blood must be recognized as having a distinct therapeutic value. It became the common custom to treat some diseases by rectal injections of this gas. But this experience is not enough; for Couch (*Medical Record*) finds carbon dioxid a frequent etiological factor in disease. In fact, he makes it such a powerful force that it is a wonder that our soda water friends survive. According to this author from gout to ulcer of the duodenum, the changes in the carbon dioxid in the blood are most important. Unfortunately, his theory is purely gratuitous and unsupported by facts. Deficient oxidation has been associated with various morbid conditions, but modern research has not verified this speculative theory.

LEADING ARTICLES.

A Study of Lecithin.

What position lecithin should properly occupy in therapeutics and in feeding, remains yet to be determined. In the first place not very much has been learned from the little clinical work and the very considerable chemical work that has been done with it. Secondly, we find ourselves paying for an undue enthusiasm which is but now disappearing and which seems to have had its origin in the belief that in lecithin, the fundamental element necessary to nervous activity had been discovered.

It will be recalled that certain excellent men expressed an early idea that the diminution of lecithin in nerve cells was relatively the basis for certain of the functional neuroses. This may be true, but the assumption was taken too seriously at first. Its use in diseases of the brain and cord, in neurasthenia particularly and in the malnutritions, in tuberculosis and the anemias, was instantly suggested, naturally enough; while for the dystrophies of the osseous system it appeared to give promise.

These appreciations sprang also from the fact that lecithin is an exceedingly rich organic phosphorus, and because clinicians never seem to have been satisfied as to why it is that phosphorus does not actually bring the brilliant results in practice that are theoretically expected.

It will also be remembered that these surmises concerning lecithin came just before the decline of another wave of enthusiasm that passed through the profession concerning the especial efficacy of the so-called organic preparations of certain metals—notably iron, manganese and arsenic; this fallacy accounted in a measure for the almost absurd reception that lecithin received in certain circles.

What the physiologic action of phosphorus is has never been shown with completeness, a few things we know, for example, that small doses given by the mouth serve to excite appetite, that it is a powerful alterative, that it has hemopoietic properties, etc.

The osteogenetic power of assimilated phosphorus has been vividly pictured by the astonishing observations of Wegner, who noticed

when growing animals were subjected to phosphorus-feeding that the provisional cartilages rapidly produced compact bone, without an intermediary stage of spongy tissue resembling the cortical rather than the deeper structures. Again, he made the almost picturesque observation that when phosphorous administration was withheld, that the process very soon stopped, but was again resumed when it was again given, so that alternate layers of compact bone and cartilaginous tissue could be made out. In adult animals Wegner observed a narrowing of the Haversian canals and even obliteration of the medullary canal under phosphorous assimilation.

These observations were made in 1870-71 and were reported in *Virchow's Archives*, June 22, 1872, they are much quoted, and are found in many of our standard works on therapeutics today, but, nevertheless, do not seem to have received much support from later work.

It must be noted that these experiments were made with phosphoric acid, and that results could not be obtained until from 800 to 1000 times as much as the required dose of phosphorus was given. The newly formed tissues were invariably gelatinous at first, which did not obtain with the direct phosphorous medication.

These and many other facts point correctly to the truth that if phosphorous can be given so as to be assimilated, there are surely pathologic conditions in which it needs to be used, therefore the supposed value of lecithin.

A most excellent contribution on the whole subject of lecithin has recently appeared (*La Medicine Orientale*, March 10, 1906) which may profitably be abstracted. Thanks are due to Drs. Samuel Bernheim and Louis Dieupart, of Paris.

The name lecithin, taken from the Greek—*λεκιθος*, was introduced by Gobley in 1846, who conducted his investigations on brain tissue and the yolk of eggs. This, however, was not the date of its discovery, for Vauquelin described a fatty phosphorus substance that he found from these sources as early as 1812. Pure lecithin was isolated later by the work chiefly of Hoppe-Seyler, Diakonow and Strecker, who added information particularly on its products of decomposition.

The white fatty matter of the brain substance described by Liebreich as Protagon has been found to be largely composed of lecithin in combination with albumins of other groups and, if we still recognize Muller's Cerebrin, of this substance.

SOURCES OF LECITHIN.

The distribution of lecithin, however, is very broad. In the yolk of chicken eggs it exists in the proportion of 8 to 9 per cent. It is obtained in part by ether, but better by alcohol. Lethicin is insoluble in acetone, but another closely allied substance which may retain the name cerebrin, can be recovered from eggs in hot acetone.—Laves, *Biol. Med.*, February, 1904.

Milk contains about 0.50 per liter (Billon, Bordas, Raczkowski, Duclaux) where it exists in suspension in a colloidal state and is destroyed to a considerable extent by heating. Milk raised to 76°C. will then contain an alteration of its lecithins; when heated to 110°C they are decomposed, with much of their phosphoric acid liberated (Bordas and Raczkowski). Heating over the water bath, however, has decidedly less power to destroy them (Reer and Schlagdenhauffen).

Bordas described a method of obtaining lecithin from milk without notably disturbing its fat. For a description of his method the reader is referred to *La Presse Medicale*, July 9, 1902. The steps consist in separating the fatty acids and completely oxidizing the isolated phosphoric acid.

The presence of lecithin in the fatty bodies free and combined of animal tissue and of vegetables was studied by Schlagdenhauffen and Reer, its distribution is exceedingly broad—mushrooms, beans, yeasts, etc., contain it in varying proportions, *e.g.*, beans contain 1 per cent, lentils 1 per cent, etc.

In animal tissues, according to Hoppe-Seyler, it exists universally and even in all bodily fluids. Bernheim and Dieupart found the following percentages: White matter of the brain 11, gray matter of the brain 2.50, spermatozoa 1.50, liver 2.22, thymus 7.51, retina 2.08, bile drawn from the gallbladder 0.22, erythrocytes 0.72 to 1.86, chyle 0.83. The yolk of birds' eggs contains high percentages of the lecithins, *e.g.*, hens' eggs contain 8 to 9 per cent. The spermatozoa of salmon contain 7.5 per cent.

A lecithin has been isolated from the cortical substance of the suprarenal glands in man, by Bernard, Bigart and Labbé in the percentage of 2.08 by weight. In the horse it exists in the proportion of 6.87 per cent (C. R. Société de Biologie, January 24, 1903, and C. R. Société Anatomique, November 28, 1902). The authors believe that

lecithin is actively secreted by the suprarenal glands.—*Biol. Med.*, October, 1903, page 31.

Mulon (C. R. Associat des Anatomique, Biblio Anatomique, 1903, pages 143-151) found that the pigmentation of the adrenals in the guinea pig was nothing more than cells that had undergone deformation changes consequent upon their own activity, and that were filled with granulations. These cells occur in direct contact with the blood stream and actually fall into it; they contain a fat, iron and the albuminoid granulations, the fat being characterized as a lecithin.

Cl. Regaud (*Biol. Med.*, November, 1903) examined the seminal epithelium of the rat, and suggested that certain of these cells elaborate a lecithin. He demonstrated that certain cells in the stratum generativa elaborated a liquid substance, chemically distinct from the ordinary fats and believed it to be lecithin, by the usual tests. As to the existence of lecithin in the kidneys, it has been found in the tubules by Regaud and Policard.

In the cephalospinal fluid, lecithin has been isolated by Donath Julius (*Zeit. f. Physiol.-Chimie.*, October, 1903, pages 526-544) in a case of tabes dorsalis and in a case of Jacksonian epilepsy, from which observation Julius advances the possible value of such findings in the diagnosis of diseases accompanied by pathologic or destructive processes in the cord and brain.

Balthazard found in the liver of the goose the enormous percentage of 22 g of lecithinic fat, which must not be considered as having been produced by a decomposition of nuclein, but as lecithin properly existing there.

Lastly, in tumor formations where growth has been rapid, lecithin is always present and seems to be related to the vitality of the growth.

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THE CHEMISTRY OF LECITHIN.

Lecithin, either free or as a salt, is not very stable and decomposes rapidly in the presence of heat or alkalis. In breaking up it liberates alkaline phosphoglycerates, stearates, oleates, margarates and its base, usually cholin, or the decomposition products of cholin, neurin, oxyneurin, muscurin, etc. The formula of lecithin, according to Strecker, would be $C_{42}H_{84}NPO_9$.

Lecithins, however, are not identical, they differ in their base and also in the fatty acids present, so that we have oleostearophosphoglyc-

erates, oleobutyrophosphoglycerates, dioleophosphoglycerates, etc. The lecithin used therapeutically is derived from a combination of glycerophosphoric acid with the fatty acids, oleic, butyric, palmitic, stearic, in conjunction with a base, usually cholin and, as has been stated, is usually taken from the yolk of eggs from the hen.

However, it must be remembered that glycerophosphoric acid, which is the nucleus common to all lecithins because of its phosphoric acid, possesses acid properties, and by its glycerin, the properties of alcohol. Because of these two properties, it may as an acid fix the base chlorin forming a salt, or as an alcohol, it may fix the various acids, as they are found in the fats forming an ether.

Much discussion is to be found on these points which need not be reproduced here and it can be safely said that, concerning the ordinary lecithin with which we have to deal, it behaves rather as an ether than as a salt, and is best considered as an ethereal trimethyl-hydroxyethylene ammonium.

The physical appearance of such lecithin is of a yellow amber mass, waxy looking, it is almost odorless, soluble in pure alcohol, in oil, ether, chloroform and benzine. At 70°C. it becomes brown and begins to decompose. It swells but does not dissolve in water, although if the action is prolonged there will be a separation of cholin. Water, therefore, can not be used as a medicinal vehicle for lecithin.

Its salts crystalize, but they are quite unstable. It will combine with chlorid of platinum to form a chloroplatinate which is slightly soluble in alcohol, very soluble in ether and chloroform, but is unstable. With chlorid of cadmium, the same reaction occurs.

Pure lecithin dissolves in its own weight of alcohol and of chloroform when heated. This solubility permits of its differentiation from hypophosphites soluble in alcohol and not in chloroform, from the nucleins insoluble in alcohol, soluble in alkalies and even in phosphate of soda.

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MODE OF PREPARATION OF LECITHIN.

It is very difficult to obtain a pharmaceutical, reliable lecithin and many procedures for its isolation have therefore arisen. The yolk of hen's egg is almost universally used. Strecker's process, advocated in Gauthier's work, consists in soaking the yolks of eggs in a little salt water and then agitating in etherized alcohol, removing the ether by

distillation and then adding a chlorid either of cadmium or platinum in acid solution. The flocculent precipitate is then washed in alcohol and placed in suspension and decomposed by sulphuretted hydrogen, which precipitates out the metal and restores the lecithin.

Hoppe Seyler and Diakonow subject the egg-yolk to ether, cold, removing the fatty and coloring matters. The albuminoid combinations of lecithin are then precipitated by water and digested with alcohol at 85°C. The alcoholic solution thus obtained is rapidly evaporated in a vacuum at a temperature of 60°C. and attains a syrupy consistence; this is then placed in a temperature of -5 to -20°C. for twenty-four hours, when the lecithin occurs in round grains which are subsequently dried in a vacuum. The ether used in the first stage carries off a certain quantity of lecithin, which is obtained by the method of Diakonow. Three lecithins are thus obtained; a crystallized dioleic lecithin by treatment with strong alcohol and cooling at -10°C. Evaporated in vacuum this liquid yields a distearic lecithin. Lastly, the ether washings yield a dipalmitic lecithin also by evaporation.

Serono's method is to immediately digest the egg-yolk with alcohol, precipitate out the lecithin with chlorid of sodium, decant and emulsify the solid residue with the same salt solution and simply use this emulsion.

Bergell precipitates out the lecithin immediately by means of an alcoholic solution of cadmium chlorid.

By these procedures, lecithins are obtained which vary largely; the common aim being, of course, to separate the lecithin from the albuminoid matters, the fats, the luteins and the small quantity of cholesterin which is always present. The lecithin of egg-yolk is always found in the albuminoid combination as vitellin or as lecithalbumin.

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COMMERCIAL LECITHINS.

The multiplicity of procedures for obtaining lecithin indicates clearly the great difficulty encountered in attempting to procure a good and uniform product. It is, therefore, necessary to specify in prescribing lecithin clinically, the source of manufacture; this is important not so much because of the danger of poisonous properties as the desirability of uniformly therapeutic capacity. Occasionally, however,

intoxications have followed the administration of market lecithins, due either to the unextracted cholesterin, to cadmium or, perhaps, to sulphuretted hydrogen. Again, certain lecithins have produced a fetid flatus of an ammoniacal odor; such lecithins were probably spoiled by heat.

In France there are a number of commercial lecithins, of these, that produced by Rogier is recommended and bears the indorsement of Desgrez. This is a lecithin combination of the three fats—olein, stearin and palmitin; it is claimed that no lecithin is active unless it contains the three fats. This preparation, carefully dried, is quite stable and keeps indefinitely.

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PHYSIOLOGIC STUDY OF LECITHIN.

It has been pointed out, in indicating the sources of lecithin, the important place held by this substance in all vegetable and animal organisms. In the chlorophyl of plants we have simply a lecithin in which the fatty acids have been replaced by certain other acids, e.g., chlorophanic acid. Stoklasa synthesizes this fact as follows: "Without phosphorus, no chlorophyl; without phosphorus, no lecithin."

"The presence of lecithin in milk demonstrated by Tolmatscheff," writes Colombe in his inaugural thesis; "and the many experiences where lecithin has been given by the mouth and has shown itself active, leads us to believe, despite Serono's advices to the contrary, that, if lecithin is decomposed by the pancreatic juice, it can nevertheless be synthetically reproduced in the organism from its own decomposition-products."

"Danilewsky" he continues, "has seen that, for therapeutic purposes, lecithin must be given on an empty stomach in order to avoid as far as possible, the action of the pancreatic juices. However this may be, resorption of lecithin as well as its breaking down products is certainly complete, because in the feces neither lecithin nor glycerophosphoric acid is found." (Bernheim and Tabery, *Rev. Internat. de la Tuberculosis*, February, 1902).

What seems to corroborate this hypothesis is the fact that the activity of all tissues seems to be related to their richness in lecithin. Parke has shown in this connection that lecithin diminished proportionately with the advancing growth of the embryo chick. (*Med. Chem. Unters*, II, page 218). Danilewsky insists strongly upon this

view, and claims that phosphorus is of the highest importance in growth and cell multiplication.

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EXPERIMENTAL PHYSIOLOGY.

Danilewsky demonstrated the above facts in 1890. He furthermore showed by placing fecundated eggs of the frog in water containing lecithin, that such eggs gave a product half again as large after two months, than resulted from the controls. He also found a similar effect to have occurred in plants under the influence of lecithin. Later he found that dogs to whom lecithin had been given when young had experienced a marked excitation of growth. Charrin, in 1897, presented photographs showing the differences in animals and plants treated with lecithin. From their experiments, Danilewsky and his pupil, Selensky came to the conclusion that lecithin has a marked influence on the hemopoietic organs, and on the blood.

Serono was the first to introduce lecithin into clinical medicine (*Archives Italiennes de Biologie*, 1900). His early experiments were conducted upon himself, and later upon a broad class of patients, including dyspeptics, neurasthenics, anemics, the tubercular, on diabetics and nephritics. Chief among his conclusions were those concerning the use of lecithin in chlorosis, where, in a word, he noted an augmentation of hemoglobin, of the red cells and of the body weight. In animals, he remarked an augmentation in the elimination of urinary nitrogens during the administration and for four days following.

Tonnelli, in 1898, verified these findings.

Foa, the year following, showed the marked effect of lecithin on the hemopoietic organs in dogs that had been experimentally exsanguinated.

Micheli employed the drug with success among neurasthenics.

Muggia introduced lecithin into pediatric practice.

Desgrez and Ali-Zaky began their experimental work in Bouchard's Clinic. Their work was done with a lecithin procured according to the Hoppe Seyler method, and was on guinea pigs. Elimination of urea was just about double under lecithin, the quantity of total nitrogens was almost doubled, and the amount of phosphoric acid eliminated was a third less. The coefficient of nitrogen utilization was slightly increased. The augmentation in the weight of the animal was a little more than doubled, *i.e.*, 310 grams as compared to 150 grams

in the control in one month. From these observations the deduction was made that lecithin, administered hypodermatically, served to exert a favorable action on nutrition, manifested by an augmentation of nitrogens elaborated, an increased fixation of phosphorous and a marked increase in body weight. ("Comptes Rendus de la Societ  de Biologie," T. 2, page 794).

In June, 1901, Bouchard read a communication to the Acad mie des Sciences from Desgrez and Ali-Zaky stating that these observers had found the same results following the use of lecithin by mouth as by the subdermic way.

Gilbert and Fourniers ("Comptes Rendus de la Societ  de Biologie," T. 3, page 145) confirmed the observations of Danilewsky, Desgrez and Ali-Zaky, emphasizing especially the effect on growing animals. They also advocated the smaller doses—1 to 3 grains per day by the mouth, or a little less every other day hypodermatically.

Stassano and Billon verified the above observations on the rabbit, finding also an augmentation in the leukocytes immediately following an injection, the crisis coming in a day and gradually declining.

Hatai Shinkiski has more recently (*American Journal of Physiology*, Vol. X, No. 1, pages 57–66) confirmed all the above findings, he found that the augmentation in the weight of white rats under lecithin was 60 per cent greater than the controls. Secondly, he found that the relative weight of the nervous system to the body remains constant. Thirdly, the resistance of the rats seem to be much increased. Following are tables of his findings in guinea pigs, rabbits and dogs.

	Weight July 8 gm.	Weight Aug. 15 gm.	Weight of Brain, gm.	Weight Right Femur, gm.	Length cm.
1—Guinea pig, control,	672	1172	6.12	2.40	6.6
" lecithinized,	645	1465	6.98	2.59	7.0
2—Rabbit, control,	486	1229	12.9	6.10	7.94
" lecithinized,	492	1554	15.7	6.85	8.2
3—Dog, control,	2170	4580	48.82	17.25	11.11
" lecithinized	1950	4580	52.06	18.42	11.14

These results seem to show that the organophosphorous combinations are among, if not the very important excitors of the nutritive exchanges in the cell. It is unfortunate that the observer of such

valuable data should not have allowed longer intervals for their recording.

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CLINICAL DATA.

Lancereaux reported favorably in a case of diabetes, in one of bronchopneumonia, and in a case of osseous tuberculosis.

Huchard mentioned cases of chlorosis, dyspepsias, ulcer of the stomach, and cases of Parkinson's disease all benefited by gain in weight and improvement in strength.

Carriere administered lecithin to two normal infants and found a notable increase in weight, increase in red and white cells and augmentation in the excretion of urea. There occurred also an increase in the total nitrogen excreted and a diminution in the phosphoric acid.

Narbel used lecithin in Combe's Clinic in cases of athrepsia infantum with uniformly good results.

Observations on tubercular patients have been made in great number and have valuable clinical significance.

The findings seem to have been most happy. Fournier and Gilbert note an augmentation in the appetite, in the weight, diminution of the cough and in the numbers of bacilli. Claude and Ali-Kaky state that lecithin does not seem to possess any specific action against the tubercular process except through its betterment of the nutrition, which they believe is due to the better utilization of the nitrogens. They recommend it as an adjuvant to other methods.—*La Presse Med.*, September 25, 1901.

It is unnecessary to quote here the large number of cases which they report, but it is well to say that the results seem to have been quite favorable. They recommend administration by mouth rather than by hypodermic methods, and give from 5 to 6 1/2 grains daily, in pill form.

A. S. BLEYER, M. D., St. Louis.

The Diagnosis of Appendicitis.

The most important and the most frequent acute abdominal lesion of the present century is an infected appendix. A careful consideration of the symptomatology clearly indicates that there are no pathognomonic symptoms of the disease. Experience has fully demonstrated the fact that the diagnosis of appendicitis must always be based upon a complete and accurate previous history, a clear account of the mode of onset and course of the present attack, and the findings obtained by thorough and painstaking examination from crown to toe. A careful rectal examination is never to be omitted; in children, especially, will it be found of inestimable value.

In a very large majority of the cases of appendicitis, an early recognition of the disease is readily possible; at times, however, the clinical manifestations are so vague or so closely simulate those of other acute abdominal affections that the diagnostic acumen of the medical attendant is taxed to its utmost. Sudden, severe pain in the right inguinal region, with fever, point tenderness and localized muscular rigidity, are significant of appendicitis in the greater proportion of the cases. The absence of one of the cardinal symptoms may render the diagnosis more than suspicious. Maurice Richardson has very tersely said: "Let any of the symptoms—pain, tenderness, rigidity and fever be absent, and doubt as to the existence of an acute appendicitis arises. A peritonitis localized about the appendix is at once excluded, though it is more than likely that there is some appendicular lesion. So, with pain and rigidity in the right iliac fossa, the absence of tenderness would at once rouse serious doubt as to the existence of appendicitis." Elsewhere Richardson says: "Rigidity with distinctly localized pain strongly suggests appendicitis, with fever it almost proves it, with tumor it fully establishes the diagnosis."

In many of the acute cases of appendicitis the medical attendant does not see the patient until twenty-four hours after the onset of the pain; he may simply find an increased pulse rate, fever, point tenderness, slight rigidity and a peculiar posture. In the chronic cases there may be localized tenderness and passing rigidity present; it is in these cases, especially, that an accurate previous history tends to clear up the diagnosis. It must be remembered that the symptoms may be localized in the left iliac fossa. In one of Nietert's cases there was a

transposition of the viscera; cases have been recorded in which the appendix extended into the left iliac fossa. When the appendix is situated in the pelvis both recti muscles may be very rigid; the picture may be quite confusing.

Very recently Schlange has concluded that it is a safe rule to consider the possibility of appendicitis in every case of abdominal trouble not clearly due to something else. It is quite evident that by so doing many of the cases that are at present diagnosticated "inflammation of the bowels," "stomach cramps" and "indigestion," would be found to be the clinical manifestations of an infected appendix. A typical case of appendicitis of mild severity and favorable termination may be succinctly described as follows: Our patient, usually a young man in apparent good health, or who has been complaining for several days with symptoms of indigestion, is suddenly seized with severe paroxysmal pain in the epigastric or umbilical region; the paroxysms become more frequent and more severe; the patient is nauseated and vomits; there is constipation or, perhaps, a diarrhea; the lips are dry, the face is flushed, the tongue is coated, the expression is somewhat restless and shock is present. Within a few hours the pain shifts to the right iliac fossa; it becomes less excruciating but constant. He finds that any sudden movement may increase the severity of the pain, hence he lies as quietly as possible. Ten to fifteen hours after the onset of the pain we find the patient lying upon his back or upon his right side, with the right leg flexed; the face is flushed, the lips are dry, the tongue shows a thick fur, the respirations are somewhat accelerated, the skin is dry and hot, the pulse is accelerated (100), the temperature registers 103° , the lungs show no change worthy of note, but the palpating hand finds diffuse abdominal tenderness and rigidity. Very careful palpation detects an area in the region pointed out by McBurney that is especially tender; the right rectus is more tender than its mate. Extension of the right leg induces pain in the appendical region. At the end of twenty-four hours we find the pain less severe but constantly present; the posture remains unchanged; the pulse is 94; the temperature registers 102.6° ; point tenderness and localized muscular rigidity are present; the lungs are found in good condition; rectal palpation now reveals tenderness in the right iliac fossa but no tumor is palpable; the patient's expression seems to be slightly brighter. Thirty-six hours after the onset of the pain we find the expression decidedly bet-

ter; the pulse is 90 or, perhaps, 86; the temperature registers 101.4° ; point tenderness and muscular rigidity remain present; the pain is less severe and seems to be subsiding. Forty eight hours after the onset of acute symptoms the pulse has fallen to 80, the temperature to 99.6° , and the patient feels much improved. Muscular rigidity and tenderness are subsiding; the pain has practically disappeared; the right leg can be extended without causing pain; we consider the patient to be doing nicely since all of the symptoms show subsidence. At the end of the fourth day the symptoms have all disappeared; deep pressure in the region of the appendix may still cause more or less discomfort to the patient.

How fortunate if every lull in the symptoms would signify improvement! But how often does it indicate a beginning general peritonitis, a perforation or gangrene! Only he who has observed these cases can fully appreciate the gravity of the situation and the weight of the responsibility.

Howard Kelly very fittingly says: "It is not only the combination of the symptoms and their appearance in a distinct order which indicates the character and progress of the malady, but the impression made upon the trained mind by their combination and progress."

DIFFERENTIAL DIAGNOSIS.

Mistakes made in the diagnosis of appendicitis are of not infrequent occurrence. In many instances an error can be prevented if the medical attendant will secure a more accurate previous history, a clearer account of the mode of onset and course of the present attack, and if the physical examination is more thorough and painstaking. The ability of the practitioner to correctly estimate the significance of each symptom depends upon many factors—haste is not one of them. The fact that hysteria, neuralgia, pleurisy, follicular tonsillitis, pneumonia, hip-joint disease, specific prostatitis, intestinal obstruction and many other affections, have been diagnosticated appendicitis, must be carefully considered.

A few of the more important lesions that may cause difficulty in the diagnosis, are mentioned below.

TYPHOID FEVER.

It is, indeed, a very serious matter to mistake a case of typhoid fever for appendicitis. Richardson says: "When typhoid fever is

suspected, one or more unusual combinations of the four symptoms—pain, localized tenderness, rigidity, and fever, will prevail. The accurate observer can not help but be on his guard. For example, let there be pain and tenderness in the right iliac fossa, with fever, but without rigidity; the surgeon must account for the absence of rigidity before he opens up the abdomen. He must inquire into a previous malaise; he must inquire minutely into the history of pain itself, its manner of onset, its relations with the temperature and pulse, its early and late situation. He must inquire about the prevalence of typhoid in the community. Every abdominal and thoracic organ must be carefully examined. He must, furthermore, make exhaustive examinations of the blood. All this care is imperative in the absence of a single symptom—rigidity of the abdominal muscles.

“Another example: Assume that in a questionable case of acute abdominal disease there has been no pain, but there is tenderness, rigidity, and fever. The absence of painful onset and of present pain at once suggests something out of the common. A temperature of 104 to 105° , with gradually appearing tenderness and rigidity, is so unusual in appendicitis that that disease can almost certainly be ruled out, owing to the absence of pain alone. Tenderness and rigidity must be accounted for by other lesions. Indeed, it is so hard to imagine a disease in which, without pain at one time or another, there is fever, tenderness, and rigidity, that one can almost say that the combination of these three symptoms alone—fever, tenderness, and rigidity, is an impossible one in acute abdominal disease.”

These words command the most painstaking study; they are pregnant with facts and indicative of wide experience and careful thought.

PERFORATED ULCER.

In acute gastric perforation, the patient, usually a middle-aged man, who has suffered for many years with gastric disturbances, is suddenly seized with epigastric pain of such severity that he faints; when he regains consciousness he vomits; he complains of constant pain of a severe character in the epigastrium; the expression is decidedly anxious; the pulse is rapid; the respirations are of a thoracic type and accelerated; the skin is covered with a cool, somewhat clammy sweat; the epigastrium is excessively sensitive, and extremely rigid; the patient lies as quietly as possible; he is afraid to move; he protects his

abdomen as much as possible. Within a short while the symptoms shift to the right hypochondrium, thence to the region of the appendix. This is due to anatomical reasons. The distinguishing features of gastric perforation are: The history of prolonged gastric disturbances, the mode of onset and character of the present attack; the general appearance of the patient; the subsequent localization of the symptoms in the right inguinal region, and the present picture as a whole.

In duodenal perforation our patient has been in apparent good health; in some instances the young man states that he has noticed blood in the stool. The present trouble was of sudden and excruciating onset; the epigastric pain was so severe that it caused the patient to collapse. We find him (immediately after the onset of the attack) lying flat on his back afraid to move; his expression is distressingly anxious, the pulse is rapid and of increasing rate; the respirations are shallow and thoracic in character; vomiting may be severe; thirst is often excessive; the patient is bathed in a cold, clammy sweat; the temperature may be subnormal; the epigastric pain remains very severe; constipation is absolute (neither flatus nor feces pass per rectum); the epigastrium is as rigid as a board. The diagnosis rests upon the history, the presented picture and the clinical findings as above outlined.

Powers lays special stress upon the mode of onset of the present attack, and the increasing pulse rate. Within a few hours the symptoms shift to the region of the appendix. When the patient is seen after the symptoms have become localized in the appendical area, the differential diagnosis will be very difficult unless a complete history is obtained.

ECTOPIC GESTATION.

A clear cut case of ectopic gestation should not prove confusing, since the age, sex and marital relations of the patient, the mode of onset of the attack, the shifting of the excruciating pain from the epigastric to just above and to the side of the os pubis, the increasing pulse rate, the shock, the increasing anemia, the missed menstruation, the extreme abdominal tenderness, the rigidity, and the boggy, pulsating mass just to the side of or posterior to the uterus (the soft, dilated cervix), combined with the picture in general, should suffice to guide correctly.

It is in the atypical cases that the picture may be quite confusing. The medical attendant must be guided by the previous history, by the mode of onset, character and subsequent localization of the pain; the stringy discharge, the delayed menstruation (perhaps the patient states that she was not unwell as long or as much as commonly); the soft, globular and somewhat enlarged uterus; the profuse discharge from the dilated cervix; the tender mass just to the right of, and seemingly connected with, the uterus, and the picture as a whole. In these cases the temperature and the muscular rigidity are often prominent symptoms. Pain and increasing anemia may be the leading clinical manifestations; oftentimes the abdomen is excessively tender to the patient when palpated; it is very rigid. It has been stated that whenever a married woman of childbearing age is suddenly seized with excruciating pain low down in the pelvis, and anemia—especially if there is the least confirmatory sign of pregnancy, and if the palpating hand finds a peculiar, boggy pulsating mass just to the side of or posterior to the uterus, we may conclude that the patient is suffering with a ruptured ectopic gestation sac.

GALLSTONES.

In many instances a differential diagnosis may be almost impossible. Without an accurate and complete previous history we will oftentimes be completely at sea. This is especially true when the picture is clouded, the patient quite fleshy and the gallbladder adherent to the anterior abdominal wall. In perforative cases in which the patient is seen after the symptoms have shifted to the appendical region, the consultant will err unless an accurate history is secured and every phase of the picture carefully gone over.

A peculiar feature of gallstone colic is the sudden onset of the pain, its location in the stomach or right costal area, with or without radiation to the back or right shoulder; the short duration of the pain; occasional vomiting of a very severe character, with abrupt disappearance, and almost immediately normal health; the tenderness in the right costal area, and the picture in general. A chronic appendicitis may coexist with gallstones.

In acute phlegmonous cholecystitis the excruciating pain is situated in the region of the diseased biliary receptacle; the tenderness is distinctly localized; the palpable mass usually moves with respiration;

the pulse is rapid, the temperature elevated; the right rectus rigid; the picture points to an upper abdominal lesion; the previous history reveals previous attacks of biliary colic.

In perforative cases the diagnosis must rest upon the history of more or less frequent attacks of pain, usually of sudden onset and short duration; vomiting, and tenderness in the right costal region; the present attack which reveals the fact that the excruciating pain was more severe than on previous occasions, and the fact that it shifted, with the other symptoms, from the right costal region to the appendical area. There may be jaundice. In many instances the previous history enables the medical attendant to clear up the diagnosis.

SALPINGITIS

Every practitioner of wide experience appreciates how difficult it is, at times, to differentiate between an infected Fallopian tube and a diseased appendix. When the patient has recently been married and states that she has never suffered previous attacks of right inguinal pain, and if the present attack is accompanied with painful, frequent micturition and slight discharge, and if the palpating hand finds the tube enlarged, quite painful and seemingly the seat of trouble we can feel quite confident that an acute salpingitis is responsible for the clinical manifestations.

In pyosalpinx the previous history reveals an attack of pelvic pain, painful micturition and vaginal discharge shortly after marriage; the patient has noted attacks quite similar to, but less severe than the present one; she has observed that when her purulent discharge diminishes or apparently subsides for a day or two, the pains become very severe; she finds that micturition becomes painful; there is a sense of weight in the pelvis; examination frequently reveals the diseased tube. I have observed that when adhesions are present between the diseased tube and the intestines it is quite common to find the patient complaining of symptoms of intestinal obstruction.

In ruptured pus tube the picture is one of shock. The history and the physical findings should suffice to make the diagnosis clear. Peritonitis rapidly appears.

Murphy has said that the greatest difficulty is experienced in making a differential diagnosis between appendicitis and acute catarrhal conditions of the caput coli, or acute retention conditions in the caput coli, especially when associated with the intestinal type of la grippe,

since here we have the pain, the nausea and vomiting, the local sensitiveness and the elevation of temperature.

I have not referred to renal calculus, intussusception, pedicle torsion, etc., since an accurate history and painstaking examination will clear up the picture.

At times it may be difficult to differentiate between an appendicitis and a pyonephrosis. Saunders has observed, however, that in pyonephrosis the temperature is almost invariably very high from the beginning of the acute symptoms. The history of previous urinary disturbances; the finding of pus in the urine collected from the right kidney, and the picture in general will usually guide correctly. It is very essential to bear in mind that the cecum may be incompletely descended, the appendix post cecal and the symptoms referred to the lumbar region, while albumin and casts are present in the urine.

The closing word in the diagnosis of appendicitis is—always base the diagnosis upon an accurate and complete previous and present history and a thorough, painstaking examination.

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CURRENT EDITORIAL TOPICS.

Pure Food Bill.

A large number of the medical journals comment on the Pure Food Bill passed by the last National Congress. The consensus of opinion is that the medical profession and the public have won a victory and that the Congress is to be congratulated for grasping the importance of the subject. To quote from the *Texas State Journal of Medicine*:

“The passage of the Pure Food Bill was one of the most gratifying acts of the recent Congress. For over eighteen years the bill languished in the Senate. Its passage seemed the direct result of the late lay and medical agitation against nostrums and adulterations. This is the first ‘down’ for the people against the heavy rush line of interested manufacturers and the Proprietary Association. Against

such truly gigantic opposition the Bill passed the House 242 to 17, and the Senate 64 to 4. The Bill prohibits interstate shipment of adulterated or misbranded articles; provides for the examination of samples of foods and drugs by the Bureau of Chemistry in the Department of Agriculture. The standards for drugs are those recognized in the United States Pharmacopeia and the National Formulary. The Bill has no appropriation for carrying it into effect. As it does not become operative until January 1, 1907, and Congress meets again in December, we must depend upon the public interest manifested by the vote to supply this deficiency. It is said that the new law is almost a verbatim copy of the present English law, and where changes have been made the act has been strengthened. Physicians will be especially interested in that part of the Bill relating to medicines, which are considered misbranded:

“If the package fails to bear a statement on the label of the quantity or proportion of any alcohol, morphin, opium, cocain, heroin, alpha or beta eucain, chloroform, cannabis indica, chloral hydrate, or acetanilid, or any derivatives or preparations of any such substances contained therein.”

The New Orleans Medical and Surgical Journal, August, 1906, thinks that:

“The medical profession, however, are only indirectly interested in the Bill, while the public is the immediate beneficiary. Now that it has become a law it remains to be seen how far it will reach in its actual execution. Since the days of the Revolution Yankee craft has been synonymous with adulteration and, while the United States is not alone in the manufacture of nostrums, it has far surpassed all other nations in this particular. There is no doubt that there has been a public demand for such, and the extent of the abuse of themselves in this regard has been evident to the laity only in the past few years since an active crusade has been undertaken against the household remedies. The majority of nostrums have their chief offense in the pretention of curing almost all diseases, some of which have baffled the earnest efforts of the medical profession even after the most intelligent and scientific study. The new law will affect these only so far as the composition and labeling is concerned, as it will require honest ingredients and a proper branding of the product. The host of remedies, however, which contain as active ingredients commonly recognized poisons and alcohol will be compelled in the future to carry the percentage of these ingredients plainly marked on the face of the bottle which is sold to the consumer.”

The *New York Medical Journal* of July 21, 1906, comments thus:

"Coming so close upon the enactment of the Government meat inspection bill, the 'Act for preventing the manufacture, sale or transportation of adulterated or misbranded or poisonous or deleterious foods, drugs, medicines, and liquors, and for regulating traffic therein, and for other purposes,' recently passed by Congress, shows a praiseworthy purpose on the part of the National Government to accomplish as much as possible in the way of putting a stop to every objectionable and dangerous sophistication and substitution in the production of food and drugs. Doubtless the law will prove of great benefit. Incidentally, it is worthy of remark that it makes the Pharmacopeia of the United States and National Formulary standards for testing the products so far as they go. These books are not Government publications, but such recognition of them in Congressional enactments goes for toward giving them the status of authoritative Government issue."

Independent Medical Journals.

Speak to the average physician and he has nothing but kind words for the magnificent work of the independent medical journal. There does not seem to be any great danger that these journals will be entirely crowded out; there is much work for them to do. *American Medicine*, July, 1906, comments on a certain phase of this subject:

"Too much independence has been the curse of medical men, but it is possible to be injured by the opposite, or too much subordination due to rigid organization which may so easily fall into ordinary ring-rule. We are not all sure that the methods we Americans adopt in organization are the best for they give power to a few who may betray their trust. Free discussion is essential to every enduring body, to prevent graft or rectify mistakes. Nothing is so injurious as a suspicion of hiding facts. It is, for instance, a silly policy for the Association not to itemize its expense account. It is a cause for disorganization. It is, therefore, essential to the welfare of any organization that it must be subjected freely to outside criticism. We remember the life insurance scandals. Every friend of the American Medical Association, who has its welfare at heart, is glad of the indorsement of the independent journals. Lick a boy, it needs spanking now and then, and like most boys, it will become vicious if it is not spanked. Above all, it must be praised by those who have nothing to gain."

Marriage Between Rich and Poor.

"Marriages are constantly occurring in the United States between young men of great wealth and young women engaged in earning their own living; but despite the familiarity of the phenomenon, no such marriages ever fail to cause apparently astonished comment and, above all, copious newspaper gossip. In Europe, where those who have inherited wealth are taught and really believe that they are of superior clay to the class of inherited poverty, and the latter assent to the teaching, such alliances may well cause a slight shock, diluted, perhaps, with some pleasure at the condescension of the man. In our country, however, where one family can hardly have the *pas* of another by a single century, astonishment is ridiculous and out of place. Few of our richest men are idle, and their work differs only in magnitude from that of the poor."

The writer (*New York Medical Journal*, July 21, 1906) thinks that the example of the race horse as to what can be accomplished by special breeding should not be used for analogy, for this animal is not useful. Restricted interbreeding does not bring any good results in the human race, as the nobility of Austria, for instance. The writer concludes:

"We should be disposed to applaud the good sense of any rich young American who marries a beautiful girl of poor but decent antecedents, in spite of the fact that such marriages depend upon unreasoning sexual attraction, like the great majority of marriages. As it is, we can only note the care Nature takes of the race, however heedless she may be of the individual."

The Retrospective Diagnosis.

The *New York Medical Journal*, August 4, 1906, gives a sharp rap to the enthusiasts who make retrospective diagnosis in order to strengthen their pet theories. Attention is called to those physicians who convince themselves that eyestrain was the principle cause of a prominent person's miseries. The practice has its weaknesses and dangers, yet the art deserves cultivation. To quote:

"To set history straight, however, is not the sole aim in attempting to ascertain the nature of past pathological states. The formation of a retrospective diagnosis is often a sort of detective work that has

a very intimate bearing upon the probabilities of heredity, upon the nature and gravity of the patient's present illness, and upon what is known in life insurance as an individual's 'expectation.' The art, therefore, should be cultivated with all possible assiduity. Its exercise calls the judicial faculties into play and require all the niceties of analysis that lawyers bestow on evidence, though in the majority of instances it is only testimony that we have at our disposal, and testimony is not necessarily evidence. The main thing is to avoid is the premature formulation of an hypothesis, for such a weed is apt to grow rank in spite of efforts to root it up. Statements, both oral and written, must be subjected to the strictest scrutiny before they are admitted as representing facts, and the facts, once ascertained, must, one and all, be susceptible of being fitted together without violence. Any attempt to force facts into harmony with a foregone conclusion is sure to work ruin to our hopes of arriving at the truth. Hypothesis must come late in the investigation, and only when it is inevitable can it be tolerated. Even bearing these things in mind, we shall often stray wide of the mark, but we may then console ourselves that we have done our best."

Delusions in the Study of Inebriety.

An editorial writer in the *Quarterly Journal of Inebriety*, Summer 1906, declares that the so called temperance literature on account of its startling positiveness of theories and conclusions is confusing and does not encourage confidence. Precise scientific knowledge is always stated with modest conservatism; often theories concerning alcohol lack this modesty. To quote:

"Persons who drink or have used spirits to excess are more assertive in proclaiming the nature of this evil and its remedies. Clergymen and physicians come next, then lawyers, teachers and reformers, all assuming to understand and point out the remedies for this evil, and feel competent to advise and direct what should be done.

"A curious delusion exists that common sense and a form of general intuition is a safer guide in the study of alcohol than elaborate studies. Also that any extreme presentation of the truth which antagonizes the prevailing opinions is to be shunned. Common sense observations of an inebriate in different stages gives little or no conception of the causes and laws which control. The common sense man and reasoner who trusts his own impressions is very superficial.

"No clergyman, lawyer or judge or even a doctor can form any clear conception of inebriety, unless he has been an accurate student, making precise observations and examinations of the facts.

"No personal experience of the effects of spirits can supply facts and conclusions without bias and misconception. Like problems in geology accurate observation and accurate reasoning and deductions from the facts will reveal the exact condition and the laws which govern them."

In short, the chemist or physician, who studies the effects of alcohol and at the same time is a drinker is not likely to reach any valid conclusions as to its relative harmlessness. To quote again:

"Inebriety is a most complex condition which can not be known by superficial study and haphazard observations. A convention of clergymen and business men can do nothing more than talk about matters of which they are unacquainted.

"Law makers and laws attempting to regulate and suppress the evil on theories that are wrong, do little more than please the authors and increase the confusion of the subject.

"Institutions and methods of treatment developed from unfounded theories fail and the inebriate is made worse."

Appendicitis and Mucous Colitis.

The *Medical Record*, August 4, 1906, calls attention to the danger of mistaking mucous colitis for appendicitis. The writer refers to an address by Prof. Dieulafoy, who reported cases in which this mistake had been made. To quote:

"Such diagnostic error will not occur if greater weight is given to the clinical picture of appendicitis as a whole rather than to any one symptom. The presence of pain in the right iliac fossa does not necessarily point to appendicitis, particularly if it is associated with enterocolitis. Dieulafoy does not believe that appendicitis is one of the results of enterocolitis, and it has been his experience that the presence of pain in the right iliac fossa in such cases points rather to a typhlitis than an appendicitis. The term typhlitis has not found much favor on this side of the water heretofore, but there are evidences that the necessity of the distinction is being recognized.

"Appendicitis, particularly that variety which is likely to be confused with an attack of colitis, affords a well-marked, characteristic clinical picture. The patient is suddenly seized with the pain, and there are no prodromal symptoms, whereas the individual suffering from colitis will give a history of intestinal disturbances extending over months and years. In both conditions there is tenderness in the

right iliac fossa, but in the latter it is never so closely identified with McBurney's point; moreover the muscular rigidity, the hyperesthesia of the skin, nausea, vomiting and a rise of temperature associated with true appendicitis are absent in mucous colitis.

"There is no doubt that the feverish haste to operate in every suspected case of appendicitis is gradually abating and greater efforts are made to establish the diagnosis firmly before subjecting the patient to a procedure with which there must always be associated an element of risk.

"Dieulafoy's warning as regards the confusion of appendicitis with certain forms of colitis is in line with the conservative views regarding appendicitis which are being more universally adopted. This constitutes, however, in no way restriction to the axiom that when we have to deal with an actual case of this disease early operation is the best possible procedure for the welfare of the patient."

Flat-Foot.

"The name flat-foot does not altogether describe the condition to which this name usually is given. The term is applied not to a foot which is necessarily flat, but to one in which there is a variation from the normal shape and position of the foot toward pes valgus. Actual flat-foot, or pes planus, need not be present; it is an incidental accompaniment or a later result of the valgus, or often it is a racial or individual peculiarity without pathological significance. There is need for a sharper differentiation in our nomenclature for these conditions. Clinically, there are several conditions, all generally classified under the heading flat-foot. These are:

"1. Pes valgus, or eversion of the foot.

"2. Sinking of the arch without eversion.

"3. Flattening of the sole of the foot due to natural lowness of the arch.

"4. The presence of much fat and soft tissues in the arch, and

"5. Eversion combined with lowering of the arch.

"This last condition is the ultimate and aggravated state which calls oftenest for treatment, because of pain, defective gait and neuralgic discomforts."

With this introduction, the *New York State Journal of Medicine*, July, 1906, calls attention to a recent article by Ledderhase (*Deutsch Med. Woch.*), who believes that flat-foot is a common cause of foot pains in cases in which there is little or no noticeable sinking of the arch. The pains vary in position, along the inner border of the foot,

at the scapoid bone and painful spots in front of the malleolus about the calcaneus and in the region of the metatarsal joints may be readily detected. Then there are deep-seated pains. No new treatment is advised.

The Prostitution Question.

The serious question of prostitution comes annually to the front and physicians and moralists are asked to prescribe for this disease of society but, like cancer, no cure has, as yet, been discovered. The focus may be destroyed but it crops out again elsewhere.

The *New York Medical Journal*, July 14, 1906, comments on the fact that theories and practice do not agree. To quote:

"Over five hundred years ago the aldermen of the old Polish capital Cracow had, 1388, decided to expel all prostitutes from the city. But to no avail; the evil still existed. Finally, they consulted the monk John Falkenberg, who at that time taught theology at the Dominican monastery school, and was a learned man. He was asked two questions:

"Is prostitution to be permitted in the city? and How should the municipal government treat the houses of ill fame?

"His answer was that, although the prostitutes should really not be permitted in the city, according to the Bible, the apostles, the church fathers, and other authorities, the evil resulting from the expulsion of the prostitutes would be greater than if these women remained, and of two evils the lesser should be selected. If, now, the prostitutes were allowed to remain, they should have a place of shelter, but these retreats should not yield a revenue to the owners, should not be houses of vice, but simply shelters. The wise officials therefore permitted the prostitutes to remain in the city.

"The scholastic answer of the Dominican professor is to be found in *Acta officii consularis cracoviensis ab anno MCCXCII ad annum MCCCCII*, republished by Johannes Lachs in the *Dermatol. Zeit.*, June, 1906."

One-Child Sterility.

There are many sides to the question of race suicide, some of which are often overlooked. The one-child sterility is a condition which is as old as the existence of venereal disease. The *Medical Record*, July 14, 1906, says:

"We are not ordinarily accustomed to regard as sterile a union in which pregnancy has occurred once, and yet, under certain circumstances the term can very aptly thus apply. There are numerous instances in which the birth of a single child or possibly only a miscarriage has been succeeded by a condition of absolute sterility which persists throughout the remainder of married life. In the German medical literature there are frequent references to this condition, but among American writers it has hardly received the attention it deserves.

"Every practitioner is no doubt familiar with instances in which no further conception occurred during several years after the birth of the first child, although such an event may have been greatly desired. The physician is consulted as to whether the power of child bearing can be restored and the patient is usually advised to submit to a division and curettage.

Attention is called to an article by Mathews, in which certain conclusions in regard to one-child sterility are given. Eighty-two instances occurred in one thousand dispensary cases. To quote further:

"It may be assumed that in the class of cases under discussion, the sterility is due to some condition in the female rather than the male genital tract, and that it is not the result of a congenital factor. More likely the cause is something that took place during the pregnancy or the puerperium, and Mathews is inclined to lay the blame in the majority of instances to gonorrhea, which may supervene about the same time with the pregnancy and is known to spread readily to the tubes. Even puerperal sepsis seems less likely to bring about sterility, as the resulting endometritis or salpingitis is frequently recovered from. Retroversion or flexion and subinvolution furnish another small percentage of cases, but the frequency of gonorrhea shows that in recommending treatment this factor must be carefully borne in mind. As Mathews truly says, it is 'foolish to dilate the cervix and curette the uterus when the history points to occluded tubes'

"In view of the increased attention which the subject of sterility has been accorded by the profession, the variety here referred to is deserving of closer study. This means that more care than ever should be given to the pregnant woman if gonorrheal infection supervenes, and as this can hardly ever be eradicated during pregnancy itself, the treatment should be continued for some time after."

MEDICAL DIGEST.

DEPARTMENT EDITORS.

Dr. M. A. Bliss, Neurology.	Dr. Adrian Bleyer, Internal Medicine.
Dr. H. N. Chapman, Electrotherapy.	Dr. Carl Fisch, Bacteriology and Pathology.
Dr. W. L. Johnson, Diagnostics	Dr. M. J. Lippe, Pediatrics.
Dr. Philip Newcomb, Therapeutics.	Dr. J. C. Salter, Physiology.
Dr. C. D. Scott, Dermatology.	Dr. L. M. Warfield, Experimental Medicine.
Dr. O. A. Wall, Jr., Pharmacy and Materia Medica.	

Treatment of Acute and Chronic Gastroenteritis With Buttermilk.

Eli (*Arch. de Med. des Enf.*), physician to a home for infants at Jourcoing, in the north of France, gives his experiences with buttermilk treatment during the epidemic of gastroenteritis in the summer of 1904. He tells of his failure with the water diet and compares his results with those of former epidemics to the great praise of buttermilk.

Any clean fresh buttermilk may be used. A tablespoonful of wheat flour is stirred into a quart of fresh buttermilk and then boiled slowly in an enameled or porcelain vessel, with constant stirring. After boiling for several minutes a dessertspoonful of cane sugar is added. On standing two layers form, the lower being yellowish and made up of clotted casein, the upper being clear whey. In feeding care should be taken that the nipple holes are sufficiently large for the small curds to pass. The food is given in the same quantity and at the same intervals as any bottle foods. At first, however, it is best to give it in small quantities frequently repeated.

The author concludes his interesting paper as follows:

1. Buttermilk is usually well borne by infants who take it better than sweetened water, notwithstanding that vomiting at times occurs.
2. In cases that have not yielded to other régimes and medicines, buttermilk alone produces radical improvement.
3. Buttermilk is both a specific remedy and an assimilable food for these forms of diarrhea.
4. It should be used in all forms of gastroenteritis and even in cholera infantum.
5. Buttermilk gave splendid results in rachitis.

6. Such a simple, efficient and universally available mode of treatment deserves a wider trial.—*Archives of Pediatrics*.

Leukocytes in Whoopingcough.

Grulee and Phemister (*Ibid.*) examined the leukocytes in 15 cases of whoopingcough and came to the following conclusions, which are similar to those of other surgeons:

1. A leukocytosis is usually present in all cases of whoopingcough.

2. As a rule, the number of leukocytes increase with the increased frequency of the paroxysms and become less as the paroxysms become less frequent and severe.

3. The mononuclear leukocytes are relatively increased in all stages of the disease. This leukocytosis is present in the catarrhal stage, most marked in the active stage, and gradually disappears.

4. In the paroxysmal stage the lymphocytosis was due largely, in the cases reported, to the large lymphocytes. In the catarrhal stage of one case the small mononuclears were in excess.

Eye Symptoms of Infantile Scurvy.

Snow (*Ibid.*) reports a case of extensive subperiosteal hemorrhage of the orbital bones due to scurvy.

The offspring of healthy young parents, this infant showed an intolerance of cows' milk and was given a cereal milk upon which it thrived for nine months, when it developed pain, swelling and pseudo-paralysis in both of the lower extremities.

Some weeks later a slight protrusion of the left eyeball appeared, associated with blackened lids. Ten days later a sudden protrusion of the right eyeball occurred, so extreme in degree that the closed lids left a large uncovered space on the cornea; both lids had a dark, bruised-like color and were much swollen. Four days later the baby became feverish and looked very ill.

Death occurred a few days later and the autopsy revealed a huge hematoma between the periosteum and bone of the orbit.

A Study of Leukocyte Count in Fifty Cases of Bronchopneumonia, Lobar Pneumonia and Empyema in Children.

Helman (*Ibid.*) found a leukocytosis in the bronchopneumonia of children independent of the amount of lung involved and of the height of the temperature.

The failure of the leukocyte count to drop when the pulmonary signs disappear indicate either a complication or a fatal termination.

The leukocytosis in lobar pneumonia is similar to that in bronchopneumonia except that the white blood count is higher when the pulmonary involvement is greater.

An increasing leukocytosis is the rule in the lobar pneumonia of children, reaching the maximum just before the crisis. The precritical drop in the lobar pneumonia of children is inconstant in and can not be utilized as a means of determining the time of the crisis.

There is a high leukocytosis at the onset of empyema in children. When in lobar pneumonia resolution and the drop in the leukocytosis have occurred, and there are present suspicious signs of empyema as a sequel, then blood counts should frequently be made at regular intervals. A sharp rise in the count, provided that other causes of leukocytosis can be excluded, is then strong presumptive evidence of a supervening empyema.

M. J. L.

Tuberculin Treatment.

Pogne (*Medical Record*, August 4, 1906) discusses the tuberculin treatment of tuberculosis and reports 167 cases. The drug was used as an adjuvant to fresh air, rest, diet and hygienic measures. We must refer to the original for details of treatment. His explanation is interesting:

“The first step in the cure of tuberculosis that is recognized at present is that of encapsulation of the invading microorganisms. ‘If the tubercle is successfully isolated by fibrous encapsulation, there arises no consequence of moment to the organism, but if the attempt to wall it off be insufficient, the bacilli multiply rapidly and some migrate radially into the surrounding tissues, spreading infection on every side.’ (Cornet). If the capsule be sufficiently dense, there is less

probability of its rupture during the stages of resolution. It must, therefore, be our aim to supply such therapeutic measures as will aid in thickening the fibrous capsule of the tubercle. It is a well known physiological law that where there is a tendency to the formation of new tissue—the growing tubercle, an added blood supply or hyperemia aids greatly in its development. The action of tuberculin as observed in visible tubercles, is to cause a dilatation of the blood vessels around the tubercle, thus bringing more blood to the seat of the disease. This hyperemia aids in the formation and thickening of the fibrous encapsulation.

“What role the hyperemia plays in the subsequent absorption of the tubercles already undergoing resolution, is a question as yet not fully explained. There is reason to believe that its action is similar to that described as ‘Bier’s method’ in the treatment of tuberculous joints and other localized infections by passive hyperemia. This local congestive action of tuberculin (active hyperemia) can be observed with the naked eye, in tubercles of the larynx, iris, mucous membrane and skin, a few hours after a small dose of tuberculin. It is often noticeable that such tubercles disappear after a course of tuberculin, and a local reaction can no longer be produced even by diagnostic doses of the drug.

“In using tuberculin as a therapeutic agent, the object is to cause an intermittent—not a continuous—hyperemia around the tuberculous area, and at the same time not to expose the patient to the dangers of excessive doses. From experience it has been learned that small doses produce hyperemia, while at the same time the tissues do not become immunized to the action of tuberculin. By this method we not only get encapsulation, but get absorption of small foci and single tubercles. Large doses have been seen to cause degeneration; if often repeated, of the new, susceptible granulating tissue, hence probably the cause of failure when large doses are used early in the course of treatment.”

His conclusions are similar to other workers with tuberculin, but it does not prove that many cases can be cured by this preparation:

“An early diagnosis is the most important step to the successful treatment of tuberculosis.

“Tuberculosis may be arrested by proper treatment, with a fair certainty of a permanent cure.

“Tuberculin is a valuable adjuvant in the treatment of tuberculosis, as evidenced by the recovery of 88 out of 150 cases that were treated with practically nothing but tuberculin, while they continued to follow their ordinary occupations during the treatment.

“Cases of tuberculosis treated with the addition of tuberculin

show a much less tendency to recur than similar cases treated without tuberculin.

"Tuberculin in small doses (0.01 to 0.5 mg.) seems to have a more curative action than when given in large and increasing doses.

"No ill effects follow the administration of small doses of tuberculin.

"Purely incipient cases improve very rapidly under the use of small doses of tuberculin, both as to the arrest of the disease and the clearing up of the diseased area.

"Tuberculin should never be given to a patient who has fever or who is suffering from mixed infection.

"Third stage cases, especially advanced cases, receive little or no benefit from the use of tuberculin."

Diphtheria Antitoxin in Pernicious Anemia.

Every now and then some one reports a case of pernicious anemia cured by some drug. A few years ago some enthusiast found that the blood was very poor in potassium and therefore recommended potassium in large doses. He claimed to have cured three cases by this drug. No one has succeeded in duplicating this record. The latest treatment is by diphtheria antitoxin.

Renon and Tixier (*New York Medical Journal*, July 14, 1906) report a case. To quote:

"The patient, a woman, aged 68 years, housekeeper, who for five or six years had gradually been losing her strength, and this debility was accompanied by increasing pallor, her limbs were swollen and she suffered very much from diarrhea. Upon admission to hospital she was found to be greatly emaciated, very pale and to have marked edema of the lower limbs. The abdomen was swollen and tender in the epigastric region. The diarrhea was profuse, but the discharges contained no parasites nor eggs. The liver was slightly swollen; the border of the spleen could be felt. The quantity of urine varied from $1\frac{1}{2}$ to $2\frac{1}{2}$ liters in twenty-four hours; at the beginning it contained a little albumin and indican, but these soon disappeared. There were no biliary pigments in the urine, either normal or abnormal, and no bile salts. The diarrhea completely disappeared within a few weeks under dietetic treatment with kefir in place of milk. The red blood cells were reduced to 880,000 and the whites to 2,000.

"There had been no hemorrhage or other affection, either acute or chronic, to account for the condition, which was ascribed to pernicious anemia. There were no traces of polychromatophilia, poikilocy-

tosis of normal size exceeded by far the giant or dwarf cells and the microcytes were less abundant than the macrocytes. The hemoglobin was relatively large, as it was 55 per cent with only 880,000 red cells. There were 80 mononuclears (not granular) to 20 polynuclears (neutrophile). The abnormal elements were notably rare, since only one megaloblast was found to 100 leukocytes, and myelocyte to 600 leukocytes. The hematoblasts were scarce.

"At first the patient was subjected to an exclusive arsenical treatment of Fowler's solution. Subsequently, the x rays were substituted and the arsenic discontinued. Finally, the patient received injections of diphtheria antitoxin in addition to the radiation. The results may be summarized as follows:

"1. Under the arsenical treatment, the number of blood cells decreased and the patient continued to lose weight.

"2. The patient had five séances of 15 to 20 minutes' duration, the rays being directed to the thighs in order to act upon the medulla femoris. Result, the blood cells increased from 790,000 to 920,000; the general condition was incomparably better and the patient gained weight—from 43 to 43½ kilograms.

"3. During the next period the radiation was continued and antidiphtheritic serum was given; there were three séances of x-rays and 45 cc. of antidiphtheretic serum were given in four doses. Result, the red cells increased from 920,000 to 1,315,000, and the gain in weight continued—from 43½ to 45 kilograms.

"Following this for seventy-six days antitoxin treatment was continued alone. The patient received fourteen injections, amounting in all to 265 cc. of antidiphtheritic serum. The number of red cells steadily passed from 1,315,000 to 2,545,000. The hemoglobin became almost normal, or 90 per cent.

"The special effects of the injections upon the blood elements were very evident. The red cells were notably increased two hours after the injection; they attained their maximum between the fourth and fifth hour; then they slowly diminished again; but twenty-four hours after the injection their proportion was still larger than had existed previous to the injection of the serum. Injections of normal salt solution made for comparison, under the same conditions, produced only an insignificant oscillation in the number of red cells. The effects of the antidiphtheritic serum upon the white cells was also to augment the proportion of eosinophile polynuclears in the hours following the injections.

"Examinations of the blood after irradiation of the medulla of the femur likewise showed augmentation of the red cells and also eosinophilia. The improvement in the blood in this patient was unaccompanied by any well-marked myeloid reaction. The slight inequality of the blood cells observed at the beginning progressively diminished. It

is of special interest to notice in this case the parallelism in therapeutic results between agents of such diverse character as x-rays and diphtheria antitoxin."

Treatment of Malaria.

It is profitable, at times, to rehearse some other forms of treatment of malaria than the quinin treatment, since occasionally the latter is not well borne or seems to be useless. The hypodermic use of quinin should be more generally employed in persistent malarial fevers, but when quinin can not be given, it should be remembered that a number of drugs have been used with benefit.

Clark, many years ago, failed in only nine out of several thousand cases in curing malaria by the internal administration of ammonium picrate. The average dose is only one half grain given in pill form several times a day. The author claimed that this drug was effective in all forms of malaria and free from the common unpleasant effects of the cinchona alkaloid.

We are not aware that this drug has been used in this country in the treatment of this disease, and attention is again called to it; possibly it may be of distinct service

Chronic Constipation in the Breast-Fed Infant.

Several years ago the butter treatment of chronic constipation was recommended; it is the usual custom, however, to use olive oil in place of butter since the latter is more liable to contain pathogenic microorganisms. A teaspoonful of olive oil, given two or three times daily, is often very effective in the constipation of breast fed infants. The rectal injection of olive oil has been extensively used in this country.

Munsch (*Deutsch Med. Woch.*, No. 11), not long ago, insisted that olive oil clysters are very efficacious in the functional constipation of breast-fed infants.

The use of water as an enema, also the use of suppositories of soap or glycerin are objectionable since their continued use irritates the rectum and may thus increase the tendency to constipation. These objections do not hold against olive oil. The author mentioned

promptly cured one case of chronic constipation by the use of oil. He should have studied the American textbooks; there is nothing new in oil enemata.

Treatment of Typhoid Fever.

Chantemesse for several years has been working on an antityphoid serum. His latest experience is recorded in *La Presse Med.* He gives the results of his use of the antityphoid serum during the past five years. He compares the mortality in his own service with the mortality in the various hospitals in Paris, the only difference in the treatment in the two sets of cases being the administration of antityphoid serum in his series. From April 1, 1901, to December 31, 1905, the mortality in the other hospitals was 17.3 per 100, while in service it was only 3.7 per 100. Certainly the immense disproportion between these figures is striking, and suggests at the very least that the use of this serum should be continued. Brunon and Josias have obtained results almost identical to those of Chantemesse, using the same serum which he employed.

The Brand treatment of typhoid fever is generally modified to suit individual cases, as it has been found that some patients do not react well under the influence of excessive cold. Probably the method of Hare is in most general use. If the temperature rises to 102.5° the patient is to be rubbed with tepid or cold water according to the effect produced. Rubbing with a piece of ice is very refreshing at times. Friction must be employed while this application of cold water is going on. If no reaction takes place after these rubbings the bath is contraindicated.

Many practitioners use sponging with cold water at the onset but resort to immersion after the temperature is persistently high. An article by Barjon (*Lyon Medicale*) shows results favoring the Brand bath. To quote:

"As to the mortality in typhoid fever Barjon has collected the mortality statistics mainly from the Hotel Dieu at Lyon, dividing his statistics into three classes—first from 1865 to 1869, before the use of the cold bath; second, the period of the introduction of the Brand method, 1880 to 1888, and third, from 1894 to 1900. The average mortality of the first series was 26.6, the second series 6.88, and the third series 14.39 per 100. There are two striking things in the figures

—first, the striking diminution of mortality during the early years of the Brand treatment, and second, the marked increase in mortality during recent years. Barjon explains this by the extreme care used when the Brand treatment was inaugurated, the patients being given the baths at the proper intervals and at the proper temperature under the supervision either of the physicians themselves or of capable nurses, while he thinks that in recent years the Brand treatment has not been carried out rigorously, due to the fact that the work has been mainly relegated to orderlies and to unskilled attendants, who give baths at too high temperature, due to sympathy with the patient, or who register too low temperatures so that they will not be obliged to give the baths.

“Courmont and Jusseraud report a series of cases with the same results, and agree with Barjon as to the cause of the increased mortality in typhoid fever. The subject is one of such practical importance that it should invite the attention of all physicians, especially those in hospital practice.”—*Maryland Medical Journal*.

SURGICAL DIGEST.

DEPARTMENT EDITORS.

Dr. E. A. Babler, Surgery.

Dr. M. G. Gorin, General Surgery. Dr. Phil Hoffman, Orthopedic Surgery.

Dr. W. A. Shoemaker, Ophthalmology. Dr. H. J. Scherck, Genitourinary Surgery.

Dr. Selden Spencer, Otology. Dr. J. A. J. James, Rhinology and Laryngology.

New Method of Incision for Removal of the Breast.

Carl Beck (*Medical Record*, July 14, 1906) gives a new technic for removal of the breast which merits consideration by all surgeons. Extensive removal of the breast produces a defect which is at times difficult to cover, and necessitates an additional plastic operation. Most operators use an elliptical or circular incision around the breast. He believes that a rectangular incision is preferable as it permits the use of an abundance of integument found below the mamma. To quote:

“The interior line of the rectangle is continued on both ends to the extent of about three inches. The same is done to the lower end of the external side, while the upper exterior end is extended along the

outer margin of the pectoralis major muscle up to its humeral insertion. The axilla itself is not touched, in order to avoid cicatrization in the axilla, which is apt to produce edema brachii.

"After the rectangle, including the whole breast, is excised the upper skin flap is formed and reflected. Thus the area of operation is fully exposed. Whether the fascia and the upper layer of the pectoralis major muscle only are removed, or whether, preferably, the radical operation is performed, the principle of access remains the same.

* * *

"In general I am in favor of the most radical procedures, especially as advocated by Halsted. This would be severing the pectoralis major muscle from its clavicular and costal attachments as well as from its humeral insertion, removing the pectoralis minor muscle, furthermore dissecting away the axillary contents, so that the vessels are completely isolated, also cleaning the posterior wall of the axilla after spreading out the tissues on the latissimus dorsi, subscapularis and teres major muscles.

"Now the lower flap is lifted up and reflected. By gently drawing the upper flap downward and the lower flap upward one can feel, without tension, whether apposition can be attained. If there be any tension, the lower flap is made longer by extending the incision line on both sides. The straight shape of the flap greatly facilitates exact coaptation."

Obstetrical Progress.

The July number of the *American Journal of Obstetrics* contains a number of good articles on some of the most important obstetrical problems. Broadhead gives an exhaustive study of the treatment of the toxemia of pregnancy. He declares that at the present time we believe that the toxemia of pregnancy depends on a disturbance of nitrogenous metabolism — a very concise statement of a most obscure condition, but who can improve upon it?

Sometime ago we were all testing for the quantity of urea in the urine, as it had been decided that puerperal eclampsia was inaugurated by a diminution in the quantity of urea and failing kidney function. Now it is different. To quote:

"Ewing believes that the systematic study of the urine will show that unoxidized proteid derivatives are invariably present in comparatively early stages of the severer cases. Instead of urea, uric acid, ammonia, leucin, tyrosin and other unoxidized proteid radicles appear in the urine, and instead of sulphates there are unoxidized sulphur

compounds. As leucin, tyrosin and ammonia are estimated with urea by the hypobromite method, the latter is unreliable."

Now this study of the urine has grown to very large proportions. It has been found that the liver does not do its work well; the nitrogen instead of being excreted as urea is transformed into ammonia. Williams states that:

"Normally from 3 to 5 per cent of the excreted nitrogen is in the form of ammonia, whereas in the pernicious vomiting of pregnancy the amount of nitrogen put out as ammonia, as compared to the total nitrogen of the urine, may be as high as 30 to 46 per cent. In other words, large amounts of nitrogenous materials escape oxidation and conversion into urea. According to this authority, a marked increase in the ammonia coefficient in pernicious vomiting indicates the emptying of the uterus; and he gives 10 per cent as the danger signal. He also states that while, in pernicious vomiting, the total nitrogen excretion is approximately normal, in eclampsia it is diminished. On the other hand, in pernicious vomiting the ammonia coefficient is wonderfully elevated, while in eclampsia the ammonia coefficient is the same."

But this is not all—acetone and diacetic acid have been found, especially in hyperemesis gravidarum. Betaoxybutyric acid has also been discovered, so that the evidence of the toxemia is strong.

In the treatment of the toxemia of pregnancy the author gives nothing new. In the vomiting, sodium bicarbonate should be tried in large doses; its use in other forms of toxemia is also indicated.

His treatment for eclampsia is as follows:

"During the eclamptic seizure administer chloroform and oxygen if possible. Prevent the patient from biting her tongue, and from injuring herself by blows and falls. If the pulse is full and strong, with tension, give the Squibb fluid extract of veratrum viride, m_x -xx, hypodermatically, and repeat in doses of m_v every half hour until the pulse is reduced to 60. If the Norwood's tincture is used, give m_x -xx and repeat in doses of m_x every half hour until the pulse is reduced to 60. In case of collapse, use whisky, morphin and atropin hypodermatically. If the pulse is weak and feeble, rely chiefly on chloral and bromids by rectum in doses of ʒss -j of each. Where the pulse is strong use veratrum viride as indicated, combined with chloral by rectum.

"If the patient is unconscious, move the bowels by croton oil m_j -ij, given with olive oil ʒj on the back of the tongue. If this is not efficient, give a high enema of sulphate of magnesia and castor oil, of

each 3j. If the patient is conscious, give sulphate of magnesia 3ij every fifteen minutes until 3j has been given. Then, if necessary, use the high enema of magnesia sulphate and castor oil. A hot pack should then be given. The colon should be irrigated with several gallons of saline solution and several quarts left to absorb. Intravenous infusion should be reserved for the very severe cases. Venesection, when labor has not yet begun, may be used to advantage in robust patients with a full pulse, 12 to 16 ounces of blood being removed. If, however, the patient is about to be delivered, a moderate blood loss can be allowed in the third stage, and if necessary, venesection can be performed after delivery. To decrease arterial tension, and as a heart stimulant, diuretic and diaphoretic, nitroglycerin is also of great value, while caffeine and strophanthus are second only to nitroglycerin.

"If labor has not commenced, a modified Champetier de Ribes bag should be introduced and the cervix should be softened and dilated by the use of these bags. When the cervix has been well dilated, complete dilatation by the hand, and delivery by forceps or version.

"If labor has already begun, but the cervix is long and rigid, use the bag for softening and dilatation. If the cervix is soft and dilatable, complete dilatation manually and deliver by forceps or version.

"If the cervix can not be dilated by the ordinary methods, Dührsen's incisions or Cesarean section should be advised, but unless the operator feels perfectly able to perform these operations, it would be better, we believe, to rely on medical treatment alone.

"The one fact above all to keep in mind at all times is, that in elimination lies the hope of the patient's salvation."

Watkins gives the following rules for the prevention of puerperal sepsis:

"We should be surgically clean ourselves, as should everything that is to come into contact with the patient. Make the whole procedure a surgical one, and impress the patient and the family of its import. Dispense with the so-called cleansing douche before labor, unless in the face of necessity, and then give it with care.

"Wear rubber gloves. You can boil the gloves; you can not boil your hands. Some say the gloves are cumbersome; that is not so if they fit.

"After the birth of the child, do not make a vaginal examination unless there is absolute reason for it.

"Suture any perineal wound, unless weakness of the patient or extensive edema contraindicates. Wounds of the cervix, unless compelled by hemorrhage, are better done a little later.

"In applying the forceps remember that it is to be used as an aid to Nature, not as an instrument designed to drag a child into the world in spite of any obstacle that may exist.

"Make as few vaginal examinations as possible. Careful abdominal palpation is better, and there is no danger of infecting the patient.

"Do not allow the child to be forced between a loaded bladder and rectum.

"Have the patient enter the labor in as good physical condition as possible, and it goes without saying that if sutures have been taken for any reason and have suppurated, they should be removed.

"When it can be done, have a bacteriological examination of the lochia made, but bear in mind that the clinical signs, both subjective and objective are important.

"If the lochia is foul, profuse and frothy, examine the cavity of the uterus with your finger. The wall will usually be rough, and the cavity filled with blood clots, secundines or some débris that should be removed. Preferably this removal should be done by the finger, but if the curette is used, great care should be exercised not to destroy the granulation zone, or what is often done, puncture the uterus. Remove the little bits that the finger has broken up by a gentle saline douche, and give the patient a general supporting treatment.

"If the symptoms are those of true sepsis, the above mentioned treatment is not to be used. Above all things do not curette; it is no less than criminal. Not only is the incomplete protective zone destroyed, but the infection is spread. A great deal has been said pro and con as regards the use of the curette in this condition. If a man should say that if one was cold he should remove his overcoat and thus keep the cold out, we would not doubt the mental obliquity of that person. To my mind, it is about as much common sense to advise one to remove the protection that Nature is trying to put on to keep out infection. The round cells are of value; let them alone."

We must append his rules which he has formulated, how to kill a woman suffering from sepsis:

- "1. Use all the salts that you can persuade her to swallow.
- "2. Poison her by strychnin.
- "3. Use the curette and intrauterine douche indiscriminately.
- "4. If she is still alive, perform an abdominal section.

Hill gives the statistics of 1000 cases of labor. The figures are very instructive. A maternal mortality of 2 in 1000 is certainly low for tenement obstetrics; quite a change this is from the time of Semelweis. Only 18 cases of septic infection occurred. Which shows

that the filth of the tenement house is by no means so septic. In fact, better results can be obtained in such homes, if care is used, than in the obstetric hospital.

Invagination in Children.

In the 107 cases of invagination reported (*Mitt. a. d. Grenz. der Med. under Chir.*) the children were well nourished, but habitual constipation seemed to be the rule. The ages ranged from a few months to eight years. Over 60 per cent were cured by chloroform, taxis and injection of water under pressure. Hirschsprung expresses surprise at the comparatively large number of cases of invagination which he has had occasion to observe no one else reporting such figures as his. The invagination some years seemed to assume almost an epidemic form. The passage of blood-stained stools should warn the mother and physician of the possibility of existing invagination, and the discovery under chloroform of the solid, cylindrical tumors confirms the diagnosis. Digital exploration of the rectus brings away a lot of blood-stained mucus. Under taxis the tumor changes its place and grows smaller and smaller until it finally disappears altogether. Laparotomy had to be performed in 4 cases, 2 of the children recovering. In one of these the invagination was in the small intestine, and reduction was impossible.

The abdomen was opened at once, although the child had been brought in during the night, and the invagination was reduced, nine hours after the first symptoms. In the 2 cases in which the children died after laparotomy, five days or, 54 hours had elapsed after the first symptoms before the children were brought to the surgeon, several days having been wasted on internal measures.—*Arch. Pediatrics.*

Ectopic Pregnancy.

The June number of the *Journal of Obstetrics* is devoted to a consideration of ectopic pregnancy, and a summary of these articles appears in the *New York State Journal of Medicine*, July, 1906.

Kelly and McIlroy discuss ovarian pregnancy and report a case. The clinical side is discussed by several writers. To quote :

"DIAGNOSIS.—Whether terminating by rupture or abortion, the typical clinical picture in tubal pregnancy is amenorrhea followed by some pelvic discomfort which culminates in abrupt, more or less intense pain with acute colicky exacerbations and irregular genital hemorrhage. The expulsion of a uterine decidual cast, piecemeal or entire, may or may not be observed. The history alone frequently makes the diagnosis. To this the physical examination adds the tubal tumor, enlarged uterus and open cervix.

"In nearly 50 per cent of Milligan's cases no menstrual period had been missed, yet in most of these the last period had been atypical. The severe pain is attributed in part to distention of the tube with blood on separation of the ovum.

"Cullingworth is credited with the statement that the bloody genital discharge is dark in color, almost blackish. The bleeding is increased, as a rule, during the paroxysms of pain. Persistence is characteristic.

"The passage of a uterine cast revealing decidual cells and no chorionic villi is almost pathognomonic, yet instances have been reported by Griffith, Dakin and Eden, in which such a cast was expelled in other conditions than extrauterine pregnancy."

Recurrence of the tubal pregnancy on the opposite side was noted in one-seventh of all cases. Operation is advised in practically all cases. In studying the decidual reaction the general conclusion is that more or less decidual reaction occurs in the pregnant tube of every case; but there is no such uniformity of opinion in regard to the decidual reaction of the walls of the gestation sac outside of the mucous membrane. But decidual reaction even in the peritoneum has been reported, so that primary abdominal pregnancy seems possible. Kermanna doubts that a uterine decidua is always developed in tubal pregnancy.

"On the question of the site of the gestation sac the views of a large number of investigators are cited. The theory that the ovum is implanted on the mucosa and has a free pole projecting into the lumen of the tube finds no supporters. The work of Peters on the embedding of the ovum in the uterus and that of Futh on embedding in the tube are generally accepted. Most observers are agreed that the site of the ovum is intramuscular.

"Veit, Kroemer and, to a certain extent, Fellner, do not believe that the ovum can destroy maternal tissue in the manner of a malignant growth. Several investigators hold that the tube wall suffers pressure necrosis from the rapidly growing trophoblast; most that the muscle is infiltrated and destroyed by Langhan's cells.

"The way in which communication is established between fetal tissue and maternal blood has been studied with great care by numerous workers. Heinsius says that the invasion of the vessel walls by Langhan's cells has been proven with absolute certainty. The author observes that the bulk of the evidence is in favor of the view that the fetal cells act in a malignant or pseudomalignant manner toward the maternal tissues, in somewhat, if not exactly, the same way as do the cells of a chorioepithelioma. The difference seems to be one of degree only, not of kind."

General Considerations in the Treatment of Fractures.

King (*St. Paul Medical Journal*, August, 1906) discusses a very practical subject and gives points which deserve special emphasis. He insists that care should be taken to make an accurate diagnosis, using the x ray examination in all doubtful cases. An anesthetic is often necessary in making the examination. In all obscure injuries to the knee, shoulder or elbow an anesthetic is advisable. In regard to the treatment he writes:

"It is in fracture treatment that we find such a diversity of opinion. Shall we use simple splints and light dressing, fixed and immovable dressings, the ambulatory splints in fractures in the lower limbs, the straight anterior splint or the right angled position in fractures involving the elbow joint, or with Lucas Champoniere treat our cases by massage with but little attempt at fixation? The well equipped physician must be reasonably familiar with all accepted methods, must know their good points and also their weaknesses, for all methods have both, and then apply this knowledge to the case in hand.

"Personally, I favor the simplest dressing that meets the requirements, for I have lost my reverence for great names in these things, well knowing that every claim made in favor of some one method or style of splint can be opposed by other authority equally good. Our treatment should never degenerate into a routine, for fractures even in the same bone are never alike, so we should fit the cure to the case. Ready-made splints, like ready-made clothes, seldom fit, in trying to use them you will often find yourself fitting the patient to the splint and the result is not always good. Simple dressing material can usually be found where needed. I employ thin wood, cardboard, wire gauze and splints made by superimposed plaster of Paris strips. These materials can readily be shaped to make a good fit, held in place by bandages which later can be securely held in place with adhesive strips."

The first dressing should not be fixed but movable; it must be possible to inspect the limb. The fracture should be so fixed that the dressing may be adjusted from time to time. To quote further :

"To combat swelling and inflammation advantage is to be taken of the force of gravity, hence where possible we elevate the limb, occasionally soothing evaporating lotions are useful, such as the old-fashioned leadwater and laudanum mixture or the cleaner mixture of equal parts of water and glycerin. Where such are deemed necessary the application is to be made direct to the inflamed part through a fenestrum in the dressing, it should be frequently changed and never covered imperviously, for maceration of the skin is to be avoided. Hot and cold applications with the ice or water bottle, the former in children or the aged, are also useful and grateful to the patient. Anodynes are at times necessary though, as a rule, not, since a fracture that is reduced and so maintained pains but little."

In conclusion he emphasizes the following :

"Greater care in diagnosing the extent of the injury.

"More frequent use of general anesthesia to permit a better examination, easier reduction and more thorough application of the dressings.

"The application of such dressings in all stages as permit of frequent inspection and readjustment.

"Massage and passive motion in all cases at the earliest possible moment.

"Early consultation or reference to the surgical specialist in complications not readily overcome.

"The physician treating his fracture cases along the lines here given will seldom be surprised and chagrined, he will not often become a target for malpractice suits and he will get his reward for his vigilance in better end results."

Fracture of the Wrist.

Kenerson (*New York Medical Journal*, August 4, 1906) in a fine, practical article gives some valuable points in regard to the treatment of fracture of the wrist. His summary is as follows :

"Most fractures at the end of the long bones of the arm are Colles' fractures, namely, fracture of the lower end of the radius, with displacement of the ulna.

"The complications are :

"Deformity resulting from incomplete reduction of the ulna and slumping forward of the head of the ulna.

"Widening of the wrist.

"Tenderness of the skin over the styloid process.

"Poor function, inability to fully close the hand and pronate the supinate.

"Displacement of the hand apparently toward the radial side."

The remedies suggested are :

"Complete reduction of ulna dislocation followed by reduction of the fracture. Suggestions were taken from Dr. Moore's paper, published in 1870, which in substance said: 'Extend—bend toward the radial side—then back (which loosens impaction), then toward the ulna side keeping the hand well back, then flex the hand, while the radius is replaced by the other hand.' Use the skein yarn when a competent assistant is not present.

"Retain in place by a roller placed on the splint under the head of the ulna.

"Take out the splints early.

"Use massage and passive movement early.

"Do not expect perfect results always and forewarn patients to that effect.

"At best these cases require good judgment and sufficient perseverance to repeat any given maneuver to insure the replacement and retention in place by natural forces of those parts that are displaced."

Hypernephroma.

We still observe a defect in the knowledge of the profession in regard to the tumors known as hypernephroma. Many cases have been reported in recent years. A concise statement of their pathology will be found in an article by Thorndike and Cunningham (*Boston Med. and Surg. Jour.*, December 3, 1903), which is here reproduced in part :

"At the present time pathologists are forced to classify a certain class of renal tumors from a genetic as well as from a simple morphological point of view. The first steps in this direction resulted from the work Grawitz, in 1883, who described a group of tumors (which up to that time had been classed most usually as renal lipomata) as *strumæ lipomatodes aberratæ renis*, and claimed for them a suprarenal origin. In the years immediately following and in fact up to the present time other writers have claimed a renal origin for these tumors,

some asserting that they arise from the epithelium of renal tubules, while others claim the endothelium of the perivascular lymph spaces as their starting point. It has, however, seemed clear to all that these growths can not be collected into any one morphological group, and are by no means to be classified simply as sarcomata, carcinomata or adenomata. They have, during the last few years, received the name of hypernephroma, the term signifying any tumor having its origin from adrenal cells, whether the growth be adenoma, carcinoma or sarcoma in type. This term seems a peculiarly fortunate one at this stage of our knowledge, as it definitely indicates the adrenal and not the renal origin of the growths in question, and yet makes no claims for any purely histological basis of classification and commits us to no one of the many points of view still held by histologists regarding such growths. At the present time the proofs of the existence of this class of growths and the propriety of using this name for them are about as follows:

"The situation of the growth just beneath the kidney capsule—the most common seat of aberrant suprarenal tissue.

"The similarity of malignant tumors of the adrenal gland and these malignant growths of aberrant suprarenal origin.

"The absence of any transition structure between the growth and the renal tissues surrounding it.

"The tendency of the tumor to extend along and to involve venous rather than lymphatic channels.

"The resemblance of the tumor cells to those of the suprarenal cortex.

"The presence of fat drops and glycogen in the protoplasm of the cells—substances which are by no means universally or even commonly found in the adrenal tissues, and yet which are always present in tumors of this gland so far as they are known.

"The property of the nucleolus of staining differently from the nucleus, a fact rarely, if ever, observed in cells of renal adenomata.

"The presence of giant cells like those in the small hypoplastic growths of the suprarenal gland of which we have a knowledge.

"The existence of an abundant capillary network as seen in the suprarenal cortex.

"The presence of lecithin in amounts closely approximating those characteristic of suprarenal tissue.

"The proper classification of hypernephromata will doubtless depend upon a combination of histological and genetic methods, and recent work upon glycogen and lecithin indicate that some progress will be made along chemical lines. It also seems proper to tabulate what few clinical facts we can already offer from the cases already described by Grawitz and his followers since 1883. These facts are briefly as follows:

"The tumor occurs most frequently in the adult male.

"It is usually large and has a nodular surface.

"It is entirely within the kidney substance or it is partially sub-capsular.

"The function of the kidney which contains it is interfered with either by destruction of renal substance or by its compression from the tumor mass, or by both these factors acting together.

"The tumor grows rapidly, is usually malignant but may probably be benign in some instances.

"It usually involves the renal vein and sometimes the vena cava, and metastases are formed along the blood current, especially in the lungs, liver and bones, but do not involve the lymphatic channels."

The Movable Kidney.

It is well to remind practitioners that the presence of a movable kidney in the vast majority of cases requires no treatment. Many operations have been devised for the relief of this condition. We consider it not out of place to give the general conclusions of Larra bee (*Boston Med. and Surg. Jour.*, November 26, 1903), who studied over one hundred cases :

"Treatment, in the sense of operative or mechanical fixation or support, was considered unnecessary in 87 of the 112 positive cases. Such patients were not informed of the anomaly. In one case where this was inadvertently done symptoms promptly appeared, the patient complained at her next visit of 'jumping sensations' in the lumbar region. Two women were advised to wear different corsets. Twenty-five were advised to wear swathes; these included some where the symptoms could hardly be attributed to the kidney, the treatment being adopted rather for enteroptosis or to support lax abdominal walls. Either a somewhat elaborate bandage or a simple binder of Canton flannel was used. Surgical treatment was not advised in a single instance.

"The immediate results can be stated in but 5 cases. Three of these showed marked improvement, 1 obtained no relief and 1, a cancer of the stomach, improved temporarily. None of these cases were observed long enough to show the ultimate results.

"Some practical inferences, however, may be drawn. If over two-fifths of the women of certain classes have movable kidney one should be very cautious in attributing to such a common anomaly such indefinite symptoms as backache, dyspepsia or neurasthenia—symptoms which, in these cases at least, were as common where no such condi-

tion could be demonstrated. When a movable kidney is found it should be borne in mind in treating the case, but unless there is reasonable ground for attributing to it the symptoms complained of, it is best not to use any appliance for its support and not to direct the patient's attention to its existence. The frequency of the innocuousness of the lesion, as shown by this and previous studies, would appear to refute the extreme surgical view according to which a movable kidney should be operated on with the object of preventing serious complications.

"The mortality of the operation, according to Keen, may be as high as 2 or 3 per cent. Of 137 operated cases collected by Watson, there were 5 deaths, 4 of which were not the result of the operation. Surely the mortality of movable kidney itself, direct or indirect, is nothing like this. Considering the great frequency of the lesion, complications are rare, especially the more serious ones. Of hydronephrosis and pyonephrosis but 15 cases were admitted to the surgical wards of the hospital in three years out of a total of 11,435 admissions, including cases arising from all causes.

"Cancer is too rare to need serious consideration, and its etiological connection with movable kidney is at least doubtful. The acute abdominal crises due to vascular or ureteral obstruction from twists or kinks of the pedicle are rarely fatal. The same may be said of the renal hemorrhages occasionally seen. The cases of the latter condition, collected by Eshner appear to have been independent of renal mobility and often recovered after operation, even when nothing had been done other than inspection of the organ.

"Two women in this series had been previously operated on for movable kidney. In 1 a nephrorraphy was done, followed, as the organ was not retained in position, by a nephrectomy. Later she was advised to wear a swathe to support the other kidney. She was markedly neurotic and stated that the symptoms had not been relieved. During the past year she has been in the hospital at least twice, once to be operated on for appendicitis and once for probable peritonitis. The second patient stated that a sinus had persisted for a year after operation and that the original symptoms were not relieved. As the notes on this case have unfortunately been misplaced, her statements can not be verified by reference to the original records. A third case seen in the same clinic since the material for this study was collected had been at the Long Island Hospital for floating kidney, major hysteria, kleptomania and retroversion of the uterus. Both kidneys were sutured through lumbar incisions without marked benefit. Her chief complaint now is pain in the back. She is extremely neurotic and has a well marked albuminuria. There is a severe hyperesthesia of the abdomen and lumbar region. Neither kidney can be felt. Thus in none of these three cases was the operation, although in all me-

chanically successful, attended with marked relief of symptoms, and one at least was injured to the extent of being obliged to take care of a sinus for a year.

"Nephroraphy undoubtedly has its place. Where any of the serious complications, such as hydronephrosis or pyonephrosis or severe crises, are present there can be no hesitation. It is justifiable where there are disabling symptoms that can not be relieved by simpler means, or even where the patient prefers the risk of operation to the discomfort of a bandage. I should be remembered, however, that the temporary use of the bandage may tide a patient over a period of poor health or debility, during which the symptoms have arisen and that afterwards, when the patient has returned to a normal state of health or has gained flesh, the kidney may cease to cause trouble. In all cases, however, but particularly where the symptoms are predominantly nervous, one should not advise operation unless he can attribute the symptoms with reasonable certainty to the lesion, and in the words of Fischer, 'das ist leicht gesagt aber schwer gethan,'"

The Omentum as a Protective Organ.

Much is heard lately concerning the protective power of the omentum in abdominal infections; it has been aptly called the abdominal policeman, since it takes charge of every disturbance in the peritoneal cavity. Not only does it act as a protector against infections but it has a strong power of absorption. Some experiments made three years ago may be recalled with profit. We quote from the *Medical News*, September 26, 1903 :

"It is only within the last few years that the importance of this organ has come to be recognized. Its function has, however, never been thoroughly investigated, and the animal experiments of Renzi and Boeri (*Berliner Klin. Woch.*, August 24, 1903) should, therefore, prove of general interest.

"They investigated the function with especial reference to other abdominal organs, particularly the spleen. If the main stem of the splenic artery or vein in a dog is tied off, the spleen, after ten weeks still retains its integrity and the circulation is almost undisturbed. It is probable that the omentum sustains the circulation, at least in part, for it is often found lying on the spleen, its vascularity is increased and in separating the adhesions considerable bleeding is caused. This activity of the omentum in restoring the inhibited circulation affords encouragement for such operations as that of Talma's for disturbed portal circulation. If the blood supply to the spleen is entirely cut

off the organ becomes necrotic. But even after several days the omentum is observed to have surrounded the organ and in ten days it has formed a dense network around the spleen, in the center of which lies the organ, encapsulated, diminished in volume, and in a state of disintegration. After twenty days it is no larger than a nut and inclosed in a fibrous capsule with walls about 2 to 3 mm. thick. In ten weeks there is scarcely any trace of the spleen left except a small fibrous nodule, almost complete absorption having evidently taken place. The animals gave no symptoms of this process going on in their interior. If the circulation is entirely cut off and the omentum excised as much as possible, encapsulation does not take place, the spleen becomes necrotic but no absorption follows and the animal dies within twenty-four to forty eight hours.

"If this operation is done in two stages, the vessels being tied off about eight to ten days after the omentum has been extirpated, death does not come until three to ten days later. Neither one of these operations alone is fatal but death is caused when both are done together and is due, the author believes, to the extraordinary toxic quantities of the disintegration products of the splenic tissue. The absorption of these is more or less hindered by the encapsulation produced by the omentum. It was also determined that the same thing took place when a kidney was tied off, encapsulation by the omentum being followed by slow degeneration and subsequent absorption. Foreign bodies introduced into the peritoneal cavity were likewise surrounded by the omentum and apparently remained without causing any further trouble.

"The authors believe that these observations not only clear up the question as to what becomes of certain internal organs which may become cut off from their circulatory supply but also serves to indicate certain therapeutic applications which are rendered possible by what is known of the functions of the omentum from these experiments "

Structural Nasal Catarrh.

Richardson (*American Medical Compend*, January, 1906) begins this article with a brief allusion to the history of rhinology and a mention of the advances made in this branch of medicine. The physiology of the nose is referred to and the author gives a description of an "ideal nose." The chief points which are discussed in this article are summed up in the following conclusions:

- "1. That chronic nasal catarrh is chiefly a structural disease.

"2. That impairment of ventilation and drainage of the nasal fossæ are the most important causative elements.

"3. That the touching of opposing surfaces is one of the most important pathologic factors.

"4. That the line of treatment is largely surgical and the chief object aimed at is to cause the defective nose to conform as nearly as possible to the shape of the ideal standard."

Spontaneous Dislocation of the Hip Joint.

Dr. Ridlon, of Chicago, discusses this subject (*Surgery, Gynecology and Obstetrics*, June, 1906), and concludes:

"Normal hips do not become dislocated, except through extreme violence, and with rupture of the capsule.

"Abnormal hips may become dislocated at any period of life up to fifteen years, and perhaps later, without traumatism and without tearing of the capsule.

"I hold that these dislocations without tearing of the capsule should be called spontaneous dislocations, unless it is positively known that the dislocation was present at birth."

The author refers to a number of cases in which slight injury caused a dislocation, but he does not refer to the spontaneous dislocation following some diseases, *e.g.*, typhoid fever.

It should be recalled that the spontaneous dislocation after infantile paralysis, was formerly regarded as a congenital luxation, but later researches proved it possible.

Early Relic Cures.

That the therapeutic value of prayer is one of the oldest beliefs, is shown by Dr. Hugo Magnus in his new book, "Superstition in Medicine." The early fathers of the Church sought to increase this therapeutic power by means of various accessories and aids, which even now survive in this Twentieth Century.

Thus the Gospel was placed upon the affected part of the body or clothing of a particularly pious man was spread over the patient. It appears that the sudarium and the coat of the Apostle Paul were held to possess such healing power and were, therefore, frequently employed as instruments of healing.

YESTERDAY AND TODAY.

DEPARTMENT EDITORS.

Dr. E. A. Babler, Surgery.

Dr. Adrian Bleyer, Medicine.

Renal Calculus.

While looking through a collection of old books I came across Francis Adams' translation of the extant works of Aretaeus, the Capadocian. Aretaeus lived and flourished about the time of Galen. He was a native of the eastern department of the Roman Empire. His descriptions of diseases have been universally admitted to be unsurpassed for elegance and accuracy. Adams tells us that his system of treatment can scarcely be too highly commended, being generally founded on rational and judicious indications. I have been very frequently impressed with his excellent descriptions and his unique form of treatment.

Concerning stones of the kidney, Aretaeus said :

"The formation of stones is a long process, the stoppage of them painful, for the passage of them is not easily accomplished; and in addition to these, the retention of urine is formidable. But if several small ones stop together in the passage, or a large one be impacted; and if these occur to both kidneys, so as to occasion retention of urine and distension of the parts, the patients die in a few days. Nature did well, therefore, in forming the cavity of the kidneys oblong and of equal size with the ureters, and even a little larger, so that if a stone formed above it might have a ready passage to the bladder. On this account, also, the stones have an oblong form, because for the most part, they are consolidated in the ureters; and such in that place as are of unequal thickness are slender before, owing to the ureters being narrow, but thick behind, because the kidneys verge downward. They are formed in the kidneys only, but when in a heated state; for the stones have no fixed place in the ureters, but the gravel floats downward with the urine and is thus both indicative of the affection and the *material* of it. But if an unusually large one at any time be detained in the pelvis of the kidney, pain in the loins, about the regions of the *psœ* as far as the middle of the ribs take place, and hence, in many cases the pain leads to mistakes, as if it proceeded from pleurisy; heaviness of the hips, painful flexion about the spine so that they stoop forward with difficulty, very painful tormina; at the same time

the pains are heavy with a sense of twisting, for the intestine is convoluted. But if the urine be retained in large quantity and with distension, the desire to urinate resembles the pains of labor; they are troubled with flatulence, which can not find vent; the fevers are frequent and of a dry nature. Tongue parched, the belly also dried up; they are emaciated and lose appetite, or if they take anything they can not readily swallow or digest it.

"If the stone falls down into the ureter there is a shivering, as if from rigor, the sensation as if from the passing of a stone with violent exertion; and if it falls down into the bladder there is an abundant evacuation of watery urine, flatulent discharges from the bowels, the stomach settled, eructations, rest from former illnesses; and sometimes blood is poured out along with the urine from excoriation of the passage.

"Another painful operation is the passage through the member, for if the stone be larger than the urethra it is detained for a long time, the bladder is filled behind and the ischuria is very painful, for along with the bladder the ureters are filled. The passage of crooked stones is most difficult, for I have seen hooked protuberances on certain of these concretions. * * *

"The causes of the concretion are twofold: In old persons, a cold body and thick blood; for cold concretes thick fluids more readily than heat. * * * But in children the copious recement of the blood, being overheated, gives origin to their formation, like fire."

In discussing the treatment, Aretaeus said:

"It was easier to render the uterus unfruitful than to destroy the tendency to engender stones in kidneys wherein it is already formed. We must strive, then, to facilitate the passage of them. * * * * Wherefore if there be a stoppage of the stones and along with it retention of urine and tormina, we are to open the vein at the ankle on the same side as the kidney affected, for the flow of blood from the kidneys relieve the constriction of the calculi, for inflammation detains them by binding all the parts, and an evacuation of the vessels produces resolution of the inflammation. We are also to bathe the loins where the region of the kidneys is placed. Let the oil which is used either be old, or if recent, let rue be boiled in it. The hair of dill is also diuretic, and rosemary and marjoram. With these you are to bathe the parts as if with plain water, for mere inunction is a small affair. But you are also to foment with these things, by means of the bladders of cattle filled with the oil of camomile. The materials of the cataplasms along with meal are to be the same.

"Dry-cupping also has sometimes removed the stoppage of the stones, but in the case of inflammation it is best to have recourse to

scarifications. If, after you have done these things, the calculi still remains fixed, you must place the patient in a bath of oil, for this at once fulfills every indication, it relaxes by its heat, insofar lubricates, while its acrimony stimulates to a desire of making water. These are the means that contribute to the expulsion of calculi."

Even today the etiology of renal calculi is the subject of much study. In the latter part of the past century Galippe found that bacteria were present in the center of salivary and of renal calculi. Tuffier made extensive experiments and found that bacteria were necessary for stone formation. Recently, Lartigau has conclusively proven the contention that foreign bodies (aseptic) may be introduced into a healthy gallbladder without causing stone formation. In other words, stones do not form unless bacteria are present.

Calculi have been divided into three groups, according to their composition. Uric acid calculi are the most common; the calcium oxalate calculi are very common; while the triple phosphate variety are of less frequent occurrence. Rare forms of calculi are composed of cystin, xanthin, carbonate of lime, indigo and urostealith.

Concerning the pathology, Schede has said:

"The common result of calculus in the kidney is a secondary infection followed by pyelitis and nephritis. The suppuration and the irritation due to the calculus will then work together to destroy the renal parenchyma, aided from time to time by the obstruction of the urine. * * * As a result the kidney will change into a great loculated abscess cavity, with stone in the various loculi surrounded by pus and ulcerating and necrotic renal tissue. * * *"

It is undoubtedly a fact that a stone may exist in the kidney without attracting attention—the symptoms are oftentimes such that the medical attendant fails to detect the true nature of the condition. The classical symptoms of stone in the kidney are—pain, hematuria and pyelitis; pyuria, says Osler, may be present for many years. Douglas adds that albuminuria, the phenomena of renal colic, and the passage of fragments of stone, are among the classical symptoms of the disease.

Morris emphasizes the fact that the site and character of the stone regulates quite materially the clinical picture as well as the importance of the stone. Douglas mentioned the fact that the pain of renal calculus is usually intermittent, excited by exertion or exercise,

and relieved by rest in the recumbent position. The hemorrhage is rarely copious; it usually requires microscopical examination for its detection. A case has been recorded, however, in which a fatal hemorrhage followed the presence of a stone in the kidney.

A typical attack of renal or rather ureteral colic may be succinctly described as follows:

"Our patient has been suddenly seized with severe paroxysmal pain in the lumbar region; the pain becomes very excruciating and radiates along the course of the ureters to the testicle and thigh. We find him in great agony; he says that the pain is unbearable; he assumes various postures without relief. He is pale, cold, and trying to force out a few drops of thick, bloody urine; the body is covered with a clammy perspiration; he is desperate and appeals for prompt assistance; the constant and pressing call to urinate is a distinct agony. The palpating hand finds extreme tenderness in the lumbar region, there is tenderness along the course of the ureters, the testicles are retracted and painful, and the lips of the urethra are pouting. Examination of the urine shows blood cells, pus cells and renal epithelium."

The diagnosis of renal calculus is often difficult. In many instances the history of previous attacks, the character of the pain, the vesical symptoms, the character of the voided urine, the retracted and painful testicle, and the picture in general point to the seat of trouble. The findings revealed by the skiagraph, the cystoscope, the ureteral probe, and the findings in general enable the trained medical attendant to pursue the proper course.

We no longer try to "dissolve" stone by internal medication. Such treatment is a delusion. Hippocrates advocated the incision of a perinephritic abscess. In 1880 Czerny removed a calculus from a kidney and the patient recovered. Morris deserves great credit for contending that the correct method of treatment of nephrolithiasis was removal of the stone; his first operation was performed in 1880.

Today we remove the stone at the earliest favorable moment. We operate *before* the kidney is practically of no value. The surgeon must expose the kidney pelvis to the examining finger before he can say for certain that there is no stone present in a suspicious case. The experience of the surgeon will regulate the operative technic—very materially, at least. When the stone is situated at the mouth of the ureter it may be removed by way of the bladder.

E. A. B.

Anointing in Infantile Disorders.

We sometimes wonder whence came the custom of "oiling" little patients, although we know that the application of oil to wounds is as old as medicine. But mothers steadily adhere to grease, emollients and embrocations as effective therapeutic agents. Thirty-five years ago physicians tried the application of oil in a variety of diseases, especially in children. Its wide field of usefulness appears in an article by Knaggs (*Lancet*, 1870) who widely tested the therapeutic action of salad oil. He assumed that the application of oil possesses the following immense advantages over the ordinary warm bath :

"Skin action is more completely and permanently restored.

"The danger of reaction is avoided, for there is no sudden change of temperature; and, moreover, the sheet of oil protects the surface from atmospheric influences.

"It acts as a fuel food, not only preventing waste of tissue but actually increasing the bulk of the little patient.

"It does not depress but on the contrary appears to exhilarate."

He then details a number of cases in which this treatment was used :

"Atrophy.—My cousin, Mr. S. H. Knaggs, was called to see an infant, whom he found apparently *in articulo mortis*. The mother informed him that she had sent for him 'for satisfaction only.' The child was oiled and in twenty minutes began to look about and took food. In the course of a fortnight it recovered its ordinary health and strength.

"Several similar cases have come under my notice; one of them is rather amusing. A brother practitioner himself told me of, and gave me permission to publish, the following conversation which took place between him and a parish patient: 'Whose child is that?' 'Why, mine, sir.' 'But surely not the child that I told you a week or two ago you would never rear?' 'It is though, sir.' 'Then the medicine seems to have set it to rights.' 'But it has had none of the medicine.' 'Then what have you been doing with the child?' 'Why, sir, don't you recollect you told me that a friend of yours recommended that sick children should be rubbed all over with salad oil, and that I might try it if I liked, but that you had no faith in it? Well, sir, I did oil it and the child has been improving ever since.'

"Bronchitis.—Last January a desperate case came under my care, which in spite of active treatment became rapidly. As a last recourse I smeared it all over with salad oil and, to my utter astonishment, there

was a marked improvement in the breathing in less than twenty minutes. In a few hours the bronchitis entirely subsided.

"Another case—double capillary bronchitis, neglected for several days—came under my relative's notice. He considered it too far gone for medical measures and therefore ordered it to be oiled every four hours. The next day the symptoms had diminished in severity, and on the morning of the third day the child was sitting up in bed taking food, and to all appearance convalescent.

"Convulsions.—In these cases the effect of oiling is sometimes truly surprising, the fit ceasing before the completion of the operation and not subsequently returning. A patient informs me that whenever she observes the symptoms which used to precede convulsions in her boy, she at once oiled him, when a calm sleep follows, from which the child wakes up refreshed.

"Diarrhea.—Some time since my cousin had an uncontrollable case of diarrhea under his care in a child aged 17 months. I advised him to give oil a trial, but he said it was too far gone for anything to be done. I saw the little sufferer myself a day or two afterwards and ordered it to be oiled every six hours. There was a marked improvement immediately after the first application. By the next day the prostration was gone. Previous to this attack the child was a 'puny little thing,' but now (oiling three times a week having been persisted in up to the present time) it is 'a splendid boy.'

"Enlarged Liver of a Rickety Child, with Bronchitis Supervening.—This patient had been under the care of a well known hospital physician, who gave it up, saying that nothing could be done for it. I ordered it to be oiled every six hours. After each application a calm sleep followed. In about seventy two hours the bronchitis began to give way, and in a few days afterwards the liver was observed to have diminished in size. The child has not since ailed."

[Kentish-town, Dec. 11, 1869.]

We can recall several cases in which the external application of oil was followed by good results. It is wise, therefore, to pay attention to simple means.

Gonorrhea.

The emblem of man's sin has existed for thousands of years. Eighteen hundred years ago Aretaeus said:

"Gonorrhea is not, indeed, a fatal affection, but one that is disagreeable and disgusting even to hear of. For if impotence and paralysis possess both the fluids and genital organs, the semen runs as if through dead parts, nor can it be stopped even in sleep; for whether

asleep or awake the discharge is irrestrainable, and there is an unconscious flow of semen. Men have not the same prurulent feelings as women affected with the disease; the fluid which runs off being thin, cold, colorless and unfruitful. For how could Nature when congealed evacuate vivifying semen? And even young persons, when they suffer from this affection, necessarily become old in constitution, torpid, relaxed, spiritless, stupid, shrivelled, inactive, pale, whitish, effeminate, loathe their food and become frigid; they have * * * torpidity of the legs, * * *. In many cases this disease leads the way to paralysis."

In regard to treatment, Aretaeus said :

"In the first place we are to treat it like a common deflexion, by astringents applied to the parts about the bladder and the seat of the flux, and with refrigerants to the loins, groins, genital parts and testicles, so that the semen may not flow copiously; and then again, apply calefacients to the whole system, so as to dry up the passages; this is to be done by styptics and lotions; wool then from the sheep with its sordes, and for oil, the rose ointment or that from vine flowers, with a light colored and fragrant wine; but, by gradually warming by means of common oil and meliot boiled with it, and marjoram, and rosemary or fleabane; and a very excellent thing is the hair of dill, and still more, the rue. Use these for the cataplasm, with the meal of barley and vetches, and of hedge-mustard seed, and natron; but honey is to be added so as to make all combine and mix together. Such also are the cataplasms which redden and raise the pustules and thereby produce deviation of the flux and warm the parts. * * *

"Every attention is to be paid to the diet, * * *. And if the patient be temperate as to venereal matters, and to take the cold bath, it may be hoped that he will quickly acquire his virility."

In 1879 Neisser revolutionized our knowledge concerning gonorrhea; he clearly demonstrated that the disease was due to a peculiar vegetable parasite which he likened to sarcin and christened *gonococcus*. In 1885 Bumm succeeded in obtaining pure cultures; he then proved its infective virulence by inoculation into man.

The treatment of gonorrhea is by no means satisfactory. There is, as yet, no true specific, although almost every pharmaceutical manufacturer claims to have one on the market. Undoubtedly, much depends upon the duration of the disease, since pathology has demonstrated that during the incubation period of the affection the gonococci are limited to the superficial layer of epithelium; later they penetrate into the connective tissue layer where they thrive.

Recently Lyons has claimed excellent results from the so called abortive treatment—that is, the quick plan of treatment. He has said :

“If the gonococci are found and the history of the case shows it to be one of acute infection, and if there be a fair proportion of epithelial cells present (on which colonies of gonococci are seen) we may expect success in the treatment. The results depend upon the stage of the disease in which we attack it, and the amount of progress made by the infection may be estimated by the microscopical picture. During the early stage of the disease we find the normal pavement epithelium of the anterior portion of the urethra, and on the scales a large variety of bacteria consisting mostly of various sized bacillus and a few varieties of cocci, mostly the streptococcus and micrococcus ureæ, while we see only a few gonococci present. Later the gonococci are present in pure culture.

“The quick curative plan of treatment is carried out as follows :—After urination, I inject into the urethra, the patient being in the recumbent position, with an ordinary conical-shaped soft rubber pointed gonorrheal syringe, 3jss of a 4 per cent solution of nitrate of silver. I seize the meatus on removing the syringe and hold the solution on the inside the urethra for from two to three minutes by the watch. The patient is then cautioned to follow strictly the usual hygienic rules prescribed in these cases and to do nothing more for himself whatever. Twenty-four hours later the patient is again examined for gonococci. If none are present nothing more is done. If present, a similar quantity of a 2 per cent solution of nitrate of silver is injected. The following day another examination is made and if gonococci are present a 1 per cent solution is injected.”

Most practitioners cling to the irrigation method. It is quite essential that the patient be duly cautioned as to diet, habits, etc. The best irrigating fluid in these cases is permanganate of potassium.

Concerning the irrigation method, Keyes has said :

“If the patient is seen at the onset, within three days of the beginning of the discharge, anterior irrigation (not forgetting the internal administration of sandalwood oil) may suffice. If the discharge is free the urethra should be irrigated twice a day, otherwise only once, for the first few days.”

Experience has taught that the irrigation fluid should not be too strong; it should be hot; the medical attendant must administer them; the patient must be irrigated twice daily; the posterior urethra can be irrigated without resorting to a catheter. Don't stop irrigations too soon.

E. A. B.

NOTES AND ITEMS.

The Value of a Medical Expert Witness.

A very eminent Chicago physician was called in court to testify. His very great importance was dwelt upon to an embarrassing degree by the attorney, who asked the following questions:

"Doctor, are you the physician to the Armour family?"

"Yes, sir," was the reply.

"Are you the physician to the Pullman family?"

"Yes."

"Are you not the physician to the Palmer family?"

"Yes."

"You number among your clientage the Swifts and Keiths, the Fields, etc?"

"Yes."

After a dozen or more of the most prominent families in Chicago were enumerated, he was questioned about the case in court.

When the time for the opposing lawyer came he surprised every one by asking precisely the same questions the first lawyer had asked; and after he had emphasized the prominence of the doctor and the prominence of his patronage, he suddenly turned and said:

"By the way, Doctor, where is P. D. Armour now?"

"He is dead," was the respectful and regretful answer.

"Where is Potter Palmer?"

"He is dead."

"Where is George M. Pullman?"

"He is dead."

"Where is Mr Field?"

"He is dead."

Then the lawyer calmly said:

"I believe I have no more questions to ask the doctor."

From "Medico-Legal," by Dr. E. S. McKee.]

Furunculosis Vulvæ,

Even when it persists in spite of all other treatment, will usually yield to daily scrubbing with green soap and the application of a dressing of sublimate solution.—*Am Jour. of Surg.*

ST. LOUIS

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EDITORIAL COMMENT.

Appendicitis Again.

It has been well said that American surgeons lead the world and many examples may be cited to corroborate this statement. The recent discussion on appendicitis by European surgeons is remarkably parallel to a similar discussion ten years ago in this country. Kümmel (*Deutsche Med. Woch.* August 16, 1906) uses the same arguments and points to the same clinical results as has been done by Murphy, Deaver and Morris in this country. He recommends the early operation, that is within 48 hours after the onset of the acute illness. Still, as he has a mortality of 9 percent in the early operations, there does not seem to be any good reason for being very enthusiastic.

Another article by Sonnenberg shows a very conservative attitude, but the early operation is also given a place and its advantages mentioned. Several other surgeons have recently added their testimony, but altogether the studies are repetitions of a matter which belongs to history in America.

The Gastric Juice and Hyperchlorhydria.

Bickel's studies (*Deutsche Med. Woch.*, August 16, 1906) on a young girl who had esophageal and gastric fistulæ corroborate remarkably the conclusions of Pawlow in regard to the psychic and reflex influences on gastric secretion. Especially does the sense of smell have

the power to influence the secretion of gastric juice on proper stimuli. The former author's conclusions will be somewhat disconcerting to the gastrologist who has been exploiting the clinical features of hyperchlorhydria, since he concludes that the percentage of hydrochloric acid in the gastric juice is almost constant (0.4 to 0.5 percent). The lower percentages of acids given by physiologists he attributes to the diluting power of the food given. The quality of the gastric juice in regard to the acid is constant; the changes are found entire in the amount secreted.

If his conclusions are sound the quantitative tests for hydrochloric acid have no direct clinical value. In all cases the effect of the food ingested in diluting the gastric juice must be considered. If the stomach is nearly empty the gastric juice will be almost pure and show a high percentage of the acid, if stagnation exists, the acid will be correspondingly diluted and appear in very low percentage.

No doubt these assertions will precipitate an interesting controversy, for no clinical disease has been more thoroughly studied than hyperchlorhydria; to be told that no such disease exists, or at least that no hyperacidity occurs, is knifing some live principles.

Disinfection.

We were greatly impressed by the article of Chopin (*Journal A.M.A.*) on the "Fetich of Disinfection." He insists that purification by fire and smoke and libations, an old practice by the priest, has continued to modern times and the attempt to give it a scientific basis is an afterthought.

"Disinfection had its origin in superstition, and its practice so partakes of the character of magic art that it catches the popular fancy."

"Disinfection, that is official disinfection, as a final precautionary measure, has little value in preventing the spread of common contagious diseases."

To the clinician who has observed repeated cases of an outbreak of some contagious disease, the value of fumigation seems dubious, and yet all can recall clinical instances where fumigations were very effective. Scientific fumigations have their deficiencies, but it is taking a very narrow view of this procedure to place it among the class of fetichs.

There are many modern practices that have originated in some rite of priesthood which modern science has found serviceable.

A Surgical Dictum.

The common surgical dictum, that an operation in a given disease is indicated because a fatal complication is likely to occur at any moment is based on incomplete premises. Often it is doubtful what course an abdominal infection will pursue, but it should also be considered that the prognosis after an operation is very doubtful. To operate because it gives the patient a chance to recover is poor surgery. An estimate should first be made of the chances without operation, and this laid side by side with the probable outcome of surgical procedures. Only then can the therapeutic conclusions be valid. It should not be forgotten that patients suffering from a severe septic process do not stand anesthesia and shock very well; it is also becoming recognized that the natural resistance to infection is enormously decreased by prolonged operation. To subject patients to an operation during the period when the infection has the greatest influence is seriously tampering with the natural course of the disease.

Race Suicide.

The family papers continue to advertise various female regulators, some of which are harmless enough; others show the unmistakable earmarks of abortifacients. The nefarious work of race suicide continues in spite of the remonstrance of moralists. The London correspondent of the *Deutsche Med. Woch.* recently wrote of the shamelessness of the English papers in advertising remedies with alleged oxytocic properties. He declares that the catheter is very commonly used by the pregnant mother to induce abortion, and physicians have a very common duty of rescuing these women.

It is one of the ironies of human destiny that race suicide promotes peace, and a recent writer has tersely declared that the stork is the greatest enemy of the dove of peace. Those nations who have a high birthrate, sooner or later, are bound to cross the limits of their country in search of food, and hence, war is inevitable. The nations of the earth who practice the methods resulting in the lessened birth-

rate clamor for peace. The moralist who insists on peace among the nations and at the same time decries race suicide is, therefore, promulgating elementary contradictions.

We have no patience, however, with certain medical journals who countenance the prevention of conception and the induction of abortion as a necessary evil of the age. It smacks too much of selfishness. No doubt, the evil has come to stay but there is nothing gained by attempting to make elaborate apologies for it. The attitude of the profession on this subject has hitherto been sound; there are exceptions, of course, but the rule remains unchanged: Let no physician advise means for the prevention of conception or the induction of abortion.

Dogmatic Statements.

Dogmatic statements based on insufficient clinical or experimental evidence will be found everywhere in the teachings of practical medicine. We have in mind especially the dietary directions often given in eczema. There is no proof that the ingestion of fruit, sugar or fats is etiologically related to this skin disease. Then, again, the stereotyped directions to the nursing mother as to her diet is oftentimes almost ludicrous. What proof exists that vinegar, fruit acids or spices harm the milk in any way? The nursing mother should eat that to which she is accustomed and what she likes unless more evidence than science has accumulated at present can be gathered to reject certain wholesome articles of food. We have seen wet nurses who demanded all their food highly seasoned, who liked salads and pickels and yet had an abundance of wholesome milk for the baby. Do not be iron-clad in your rules.

The Journal of the A. M. A.

At last the worm has turned. The uncalled for attacks on the management of the *Journal of the American Association* have provoked a reply in recent numbers and we must admit that the attacking party is in full retreat.

We have several times called attention to the fact that the medical profession is back of the *Journal* in an overwhelming majority

and the malicious attacks in certain quarters can only end disastrously to those attacking. It is a remarkable human trait to attack success. Nothing succeeds like success but, on the other hand, success always produces animosity. As soon as the *Journal* has a surplus the cupidity of every member is excited, who wants to get his hands on the gold. Why should there be a surplus, asks a member. Let a reduction in the price of the *Journal* be made—distribute the surplus. Meanwhile, we observe the influence of the American Medical Association has reached a degree which can be utilized for great good. Let the work go on.

Oxygenated Drinks.

The popularity of effervescent waters suggests that a further inquiry in fluids charged with gas be made; probably there are gases which have qualities superior to carbon dioxide and yet produce that stimulating effect so grateful in the carbonated water. Especially is this true since from certain quarters comes a violent protest against the ingestion of a gas which is usually considered toxic. To the thinking mind oxygen seems much more rational, and this element has been repeatedly suggested as the proper gas for charging drinks. Reports from Paris indicate that oxygenated drinks, which have been introduced, are rapidly becoming popular. We expect to see oxygen fountains connected with drug stores in the near future, where we can send our neurasthenic, gouty and diabetic patients. Away with that dead substance carbon dioxide, give us the life giving oxygen in our drinks!

Gelatin for Phthisis.

Gelatin is the latest food to be added to the dietary list for the consumptive, notwithstanding the fact that physiologists have even denied the nutritive value of this substance. It seems, however, that gelatin, because of the fact that it is mostly destroyed in the organism, protects the destruction of albuminoids and favors a healthy nutrition.

Perhaps, its hemostatic action also comes into play, and hemoptysis is less common in patients taking gelatin. Calcium has recently been extolled in the treatment of phthisis since it favors the calcification of the cheesy material and, as gelatin contains a large percentage

of calcium, its favorable action may partially be referred to this element.

Since dietetics has been given the principal function in the treatment of tuberculosis, the increasing number of food constituents which are given a leading part in the cure is becoming somewhat bewildering. Not long ago the fats were given first place, then raw meat had a time of attention; vegetable juice was next placed on the bill board, and now it is gelatin. We are afraid that liked the instance in which a woman with advanced phthisis was cured by drinking cabbage soup, the clinical tests for the estimation of the value of these foods is too meager.

At the beginning of phthisis, give a patient a few drops of a bitter tonic three times a day and he will gain in weight for a period, but no one would have the temerity to assert that the infusion of quassia is curative in tuberculosis.

By the way, what has become of the method of feeding with the essential fat of the tubercle bacillus advocated by McDonald two years ago (*Medicine*, 1904)?

Antistreptococcic Serum.

Aronson, in a recent article (*Deutsche Med. Woch.*, August 23, 1905), in discussing the therapeutic action of antistreptococcic serum, corrects some common misconceptions. The antistreptococcic serum is not bactericidal directly but increases the action of the leukocytes by changing the character of the bacteria. We offer the suggestion, in the language of the English investigators that the opsonic power of the blood serum is increased by the serum. Hence, the leukocyte apparatus must be intact before any definite therapeutic action of the serum can be expected. In many cases of infection the activity of the leukocytes is impaired and the serum is consequently inert. This authority doubts very much that in operations upon abdominal carcinoma, the injection of antistreptococcic serum will prevent peritonitis, since the leukocyte apparatus is very defective in carcinosis.

LEADING ARTICLES.

Dietetics.

(Continued from page 144, September Number).

Dr. G. Newton Pitt deals with Diet in Acute Illness. From Hippocrates' time it has always been the custom, in many cases, to practically starve patients during an acute illness. This may be good for a day or two. Graves, in 1843, clearly demonstrated that one great danger of fever lay in inanition and the prognosis was enormously improved by giving the patient a nutritious diet.

Rise of temperature is due to poisoning of the heat-regulating mechanism, and although there is an abnormal disintegration of tissues, the main cause is the loss of heat. In fever the blood pressure falls, the heart's action becomes more feeble, the receptivity of the patient is dulled and, in extreme cases, there is delirium or coma, the saliva and gastric juices are altered, the mouth becomes dry, there is loss of appetite with distaste of food, there is an excessive metabolism in the nitrogenous and, also to a less extent, in the non-nitrogenous elements. This state rather than the height of the temperature should guide our feeding of the patient. We find that in some fevers that persist, as phthisis or pyemia, the glands and secretions may become so accustomed to the abnormal condition that considerable amounts of food may be administered with advantage. Pitt then considers what the food given may do.

It may neutralize or counteract the poisons, either by supplying antibodies or by altering the alkalinity of the tissues. It may act as a stimulant on the heart and nervous system including the pulse and the temperature, as alcohol does. It is now known that antitoxins are produced by the cells and that their capacity to do so efficiently largely depends on the nutriment with which they are supplied. The elimination of poisons can be greatly accelerated by giving large quantities of liquid, so that the poisons are diluted while the cutaneous and renal organs are stimulated to activity. Liquids should be supplied on account of—1, their retention and the retention of sodium chlorid; 2, as antipyretics; 3, as stimulants (tea, coffee, alcohol); 4, for their action on the kidneys, and 5, on digestion.

Thirst in fever is due partly to the dry condition of the mouth, but also to the increased specific gravity of the blood, which results from the tissues of the body having attracted increased quantities of fluid out of the blood on account of their poisoned condition, and also on account of the sodium chlorid retention. The diet, therefore, should consist of liquids and not of solids. Peptones and albumoses should be assimilated much more readily than meat on account of the lessened digestive juices and the impaired movement of the stomach.

The question is asked: What is the quantity of food necessary for a fever patient? In health 3,000 calories are required for an active man. This may be supplied by 100 grams of albumin, 100 of fat and 400 of carbohydrates. In fever the excretion of nitrogen is greatly increased as the poison disintegrates the cell tissue and interferes with the capacity of the cells for building up albumin. The CO_2 excretion is only increased by 20 percent or less. For a patient in bed 2,400 calories should, theoretically, be required; if there is pyrexia, 2,700 calories; with chronic pyrexia it has been found that 1,500 calories may be sufficient, and practically the diet of a patient with acute illness will more often be found to have a value under instead of over 2,000 calories.

It is impossible by any diet to prevent the waste of tissue in fever. Nor has it been found that it can be prevented by antipyretics, since, even if the temperature becomes normal the effect of the poison on the tissue persists.

Fever diet should be kept up for several days after the subsidence of the fever. Nitrogenous equilibrium is not reached until then.

The particularly valuable foods as milk, gelatine, etc., are then enumerated and alcohol dealt with lastly. Pitt says "there is no question that alcohol is a food and one which is readily assimilated."

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Diet in Renal Disease.—John Rose Bradford contends that a rigid system of dieting is suitable neither for all kidney diseases nor for all stages of the same disease, and attention in determining the diet should not be directed exclusively to the condition of the urine, but other factors, such as the general nutrition of the patient, the presence or absence of dropsy, the degree of cardiovascular degeneration present, and the presence or absence of uremia, should all be taken into consideration. In cases of true acute nephritis associated with

considerable suppression of urine, and where the eliminating functions of the kidney are most seriously compromised, the diet should be reduced to the greatest extent possible, and in some cases of very acute nephritis it may be advisable to withhold all food for a few days. In most cases this is not necessary, but it is wise to restrict the diet to one or one and a half pints of milk in 24 hours—all meat extracts and soups to be avoided. The amount of fluid is to be limited, especially if there is dropsy. In chronic renal disease, if complications, such as uremia and dropsy are present, the dietetic treatment must be somewhat similar to that applicable to cases of acute nephritis.

In both cases, where uremic symptoms or anasarca are present, the nitrogenous foodstuffs must be diminished as much as possible, bearing in mind that a considerable portion of the nitrogenous extractives in the urine are derived directly from the tissues, and also that a considerable amount of proteid passes out in the urine in the form of albumin and is, therefore, lost to the economy. Hence, it is not advisable to restrict the nitrogenous input to the extent that is right and proper in cases of acute nephritis. Where dropsy is present and especially where it is increasing, fluids should be given in strict moderation, and there would seem to be an increasing amount of evidence in favor of limiting, so far as possible, the quantity of common salt in the food.

The improvement under a milk diet in chronic renal disease is often more spurious than real, the quantity of urine is seen to be increased and the albuminuria to be apparently diminished; these are looked upon as signs of improvement, when really all that has happened is that the diuretic action of the milk has led to an increase in the flow of urine, and thus the loss of albumin, although really the same, has undergone a percentage reduction. Attention should never be directed solely to the state of the urine, the general appearance of the patient and his body weight should be carefully observed. An increase in dropsy frequently shows itself by a rapid increase in the body weight.

In syphilitic nephritis the albuminuria is very intense, the urine not infrequently solidifying on boiling. Such cases are often liable to be regarded as acute in nature and of serious outlook, and considerable harm may be done by ordering too low and restricted a diet, when improvement frequently ensues with a more liberal diet.

Concentrated meats, such as smoked meats are to be avoided in renal disease. Fish, although rich in nitrogenous extracts, is very suitable food, owing to its digestibility, and illustrates very well how the diet should be determined largely by considerations based on digestibility rather than on the richness of the food in nitrogenous extractives.

Most vegetables are suitable—asparagus and rhubarb excepted. Stimulants are probably harmful in all forms of chronic renal disease and are best avoided.

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[2144 S. GRAND AV.]

(*To be Continued.*)

Appendicitis - Its Prognosis and Treatment.

When we recall the fact that the clinical manifestations of an infected appendix are no reliable criterion of the extent of the pathological process which has occurred in the diseased appendix, and since many of the older practitioners continue to resort to the so called "medical treatment" until the golden moment has vanished, it is quite obvious that the prognosis continues to be very grave. The virulency of the infection and the character of the treatment practically control the prognosis. In my opinion, there is no reason why proper treatment at the proper time should not save every case of appendicitis, hence I fully concur with Dieulafoy who contends that "no one should be permitted to die of appendicitis." Dieulafoy's assertion is evidently based upon the experience that an early recognition of the disease, and early, competent surgical intervention—intervention during the first 8 to 24 hours of the disease—*saves practically every case*. Early operation not only accomplishes this but it goes farther; it prevents prolonged suffering, postoperative hernia, prolonged illness, and it obviates many other disasters.

Concerning the prognosis, Maurice Richardson has said:

"Even after an experience of thousands of cases of appendicitis, I can not predict with any certainty the prognosis in any acute case, no matter how mild the symptoms may be. Recently I have found myself delaying in cases in which operation proved to be of the gravest sort. I was deceived by the apparent mildness of the attack as

illustrated by the triviality of the pain and of the local and constitutional symptoms and signs. The mortality of abdominal surgery today and of general surgery today is the mortality of abdominal emergencies, and is the mortality of delay."

Richardson's words find corroboration in the experience of every surgeon. If the medical man could but appreciate this fact the results of surgical intervention would be revolutionized. Just so long as the surgical assistant is not called until practically the last moment, just so long will these cases continue to be lost. It may be added that more than half of the nonoperated cases have recurrences.

TREATMENT.

Whenever appendicitis is suspected the medical attendant should put the patient to bed and keep him as quietly as possible. All food and liquids by the mouth should be interdicted. An ice bag applied to the region of the appendix will afford relief. Cathartics are absolutely interdicted. Opium simply clouds the picture until too late. Roux asserts that since physicians in his neighborhood have entirely abandoned cathartics from the onset of the attack, and have starved the patients, 95 percent of the acute cases subside or develop an abscess. Evidently 5 patients out of every 100 are lost. Ochsner was perhaps the first to advocate the "starvation" treatment. It must be distinctly remembered, however, that Ochsner and practically every other surgeon of wide experience agrees that operation during the first hours (up to 48 hours) of the disease, is the very best treatment; Ochsner advocates his starvation treatment in those cases in which the disease is evidently spreading or has already spread to the neighboring parts. It is more than probable that many practitioners have sacrificed human lives simply because they tried to apply the starvation treatment when operation should have been performed—they misunderstood the intentions of Ochsner. It is true that in those cases in which the patient flatly refuses an early operation or in which a competent surgeon can not be obtained it is far better to resort to the starvation treatment pure and simple than to attempt any other form of treatment.

Reginald Fitz believes that in some cases the patient requires watching merely and at this stage should be given a chance of recovery without an immediate operation. Fitz adds, however, that if the pain

persists, the tenderness increases with sharp limitations to the region of the appendix, with or without a tense guarding muscle, and the temperature rises, longer delay is undesirable—an immediate operation is then called for. It is Fitz's opinion that if the medical attendant first sees the patient when the latter is suddenly attacked with intense abdominal pain and there is exquisite tenderness in the region of the appendix, it is probable that perforation or gangrene is threatening or has taken place, and an immediate operation is demanded. He feels that the physician is justified in delay until the conditions call for an immediate operation. These may be present at his first visit or may not appear until a later period. If after 24 hours there is no improvement, and especially if the fever increases, an immediate operation is preferable to further delay.

Personally, I can see no advantage in delaying a single hour after the diagnosis has been made. Whenever I am called in to see a patient suffering with an attack of appendicitis, I explain clearly the exact condition; I tell the patient that no one on earth can tell the exact condition of the appendix until the organ has been exposed; no one can say how soon the appendix will rupture; no one can say whether or no it is not already gangrenous; no one can say whether or no the present attack will subside; no one can foretell the outcome if the medical treatment is followed. On the contrary, if the operation is performed during the first few hours of the attack and before the disease has extended to surrounding parts, we can feel quite confident that the patient will recover.

In my opinion the reason that so many persons die from appendicitis today is simply because the operation is delayed until too late. Never was a patient with an infected appendix operated upon too early. This is just as true as Scripture. And yet here and there throughout the continent we find practitioners who sit idly by and refuse to advise early operation—by early operation I mean operation just as soon after the diagnosis has been made as is possible. Certainly I do not mean after the patient is doomed. It must be remembered that the appendix may be found gangrenous within 8 to 20 hours after the onset of the symptoms; in fact, the patient may not complain of pain until perforation occurs. In the latter instance operation 24 hours after the onset of the symptoms could scarcely be called an "early operation."

Maurice Richardson has said :

"The earlier a patient is operated upon the surer he is of recovery. I believe that the question of immediate operation *versus* delay in appendicitis admits of but little discussion. My practice is to operate upon all severe cases of appendicitis, almost without exception, as early as possible after the first symptom, since I am convinced that the dangers of delay are greater than are the dangers of operation. Deaths in appendicitis are, as a rule, caused by our failure to remove the nidus of infection before it has had a chance to do irreparable damage. In some rare instances death is undoubtedly hastened by unwise intervention. By unwise intervention I mean an operation performed when the patient is on the verge of the grave; the least shock, even the briefest anesthesia being sufficient to turn the balance against him. In exceptional cases, *e.g.*, pneumonia, acute bronchitis, serious affections of the heart, kidneys or other organs, operation may not be performed."

Brewer is a strong advocate of early operation. He says :

"I believe that operation should be performed as soon as the case is presented to the surgeon except in those cases in which there is no doubt about recovery without operation. I am convinced that the greater one's experience becomes, the less willing he is to advise against immediate operation in cases in which there is a reasonable doubt about the severity.

"Whenever well-marked local symptoms persist for more than a few hours after the first signs of appendicitis it is impossible to determine how far the process has gone in the appendix except by operation. It is impossible to say before the abdomen is opened whether there is a hopeless condition or not."

Howard Kelly has very fittingly called attention to the fact that the "interval operation" is not for the acute sufferer but for him who has passed through one or more attacks, and for this reason decides to submit to the operation while enjoying apparent good health, rather than incur the risk of another—probably fatal attack.

Concerning the "late operation"—operation performed for the evacuation of pus or for a spreading peritonitis, Finney has very correctly said :

"The presence of pus in an appendicitis case is *prima facie* evidence of a mistake on the part of somebody—the patient, the phys-

ian or the surgeon. If, however, a skilled surgeon is not available in the early stage of the disease, the patient will run less risk from delay and the subsequent incision of an abscess, than from a clumsy operation."

Until very recently it was customary to regard cases of apparently general peritonitis as fatal. Murphy has reported 16 cases of general peritonitis in which operation was performed; all recovered. Murphy does not flush or sponge the general cavity; he simply evacuates the septic material; he avoids breaking up adhesions; he employs drainage and places the patient in the exaggerated Fowler (the sitting) posture. My personal experience with the Murphy technic has been very gratifying.

We may conclude that the medical treatment of acute appendicitis is a delusion; early surgical intervention will save every case of appendicitis; it is the delay that costs the patient's life.

E. A. BABLER, M.D., St. Louis.

Barley Against Rice.

In the practice of pediatrics decoctions made from rice or barley form a most useful article of food in the treatment of digestive disorders. Now the question has frequently arisen whether rice or barley was a preferable article of food. The general opinion seemed to be that these cereals were interchangeable—that it was a mere question of taste.

The chemical composition of these two cereals throws some light on the subject and should always be considered when prescribing either rice or barley to be used for some time. Barley contains about 10 percent of proteids while rice contains only 8 percent. About 2 percent of fat is found in the former and only 0.5 percent in the latter. Rice contains practically no cellulose, while barley contains nearly 2 percent.

It is obvious that barley has some advantage as far as nutritive constituents are concerned, on the other hand rice contains no indigestible cellulose and consequently should be less irritating to the sensitive mucous membrane. Practically, there is little difference; barley water is, however, to be preferred when a cereal must be given for some time.

There is a common impression among physicians that rice has a very high nutritive power, and frequently the endurance of the Japanese and Chinese is cited to confirm this opinion. As a matter of fact it is a very imperfect food as its chemical composition suggests. The studies of the Japanese in regard to the etiology of beriberi showed that the excessive rice diet is etiologically connected with this disease. According to Takaki (*Medical Record*, September 1, 1906) whenever beans and barley were substituted to some extent for the rice the epidemics of the disease rapidly declined. Other diseases declined also and the health of the sailors in general was greatly improved. This distinguished author regards an insufficient supply of albuminous food as the principal cause of beriberi.

It is by no means certain that this is the principal cause, for according to Wright's studies the disease may occur among the Malays, who do not eat rice. Furthermore, researches seem to indicate that it is an infectious disease, and a poor diet is merely a predisposing cause.

In reading Takaki's address the impression is forced on the mind that rice has a less food value than barley, that it does not give the body the proper resistance to disease and, therefore, the common conception of the great food value of rice in comparison to other cereals is probably incorrect.

Strange Remedies of the Ancients.

The following are among some of the fantastic cures presented by the medical authorities of early times, as given by Dr. Hugo Magnus, in his new book, "Superstitions in Medicine : "

Remedy against Bellyache.—Take the heart from the living lark and wear it as an amulet at the left thigh.

Remedy against Epilepsy.—(Advised by the physician, Moschion Diorthrotos). The forehead of an ass tied to the naked skin of the patient and worn.

Gather iris, peonies and nightshade when the moon is on the wane, pack them into linen and wear them as amulet. (Advised by the magician Osthanes).

Take a nail from a cross and suspend it from the arm of the patient (Given by Archigenes, a physician of the Second century, A.D).
—Alexander of Tralles, Book I, chapter 15, page 566.

ORIGINAL ARTICLES.

Intubation for the Severe Paroxysms of Pertussis.

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Desperate disease conditions sometimes need prompt and fearless mechanical intervention. While pertussis is preeminently a medical disease, there are cases in which terrible laryngospasm threatens life and may need something more than a dose of belladonna. Such a case was the following:

H., aged 14 months, a healthy, robust looking boy, who had a good history of nutrition was infected with pertussis by his sister. The father also suffered from whoopingcough at the same time. The onset of illness—about July 1, 1906, showed no abnormalities, but gradually the paroxysms became so severe that the nurse reported alarming conditions. The severe coughing spells were not controlled in the least by belladonna or opium. Artificial respiration had to be resorted to several times. Finally, a very severe paroxysm of coughing ended in asphyxia from laryngospasm. The child became livid and then perfectly limp. Artificial respiration restored the child after some difficulty.

July 15.—The baby was intubated at 5 p.m. Following the intubation the child slept quietly during the night except that the paroxysms continued as before. The coughing attacks resembled the ordinary severe spasmodic coughing of pertussis, only that the inspiratory difficulty was absent. He would cough until he was cyanotic but as soon as an attempt at inspiration was made the air entered without difficulty. He took very little nourishment. The rectal temperature was 99° before intubating.

July 16.—The rectal temperature ranged from 102 to 103° all day. With each coughing attack a large quantity of mucus would be expelled. The pulse was strong and 156 to the minute. Very little nutriment was taken. A mild opiate was given several times.

July 17.—The temperature ranged from 102 to 103° all day. Rapidity of the pulse the same. Took a little more food, and had frequent coughing spasms.

July 18.—Took more nourishment, the temperature not quite so high—102.6° being the maximum. Pulse 150, respiration 42. Vomited milk several times in paroxysms.

July 19.—Condition about the same; very restless during the night. Took 18 ounces of milk in the 24 hours. Syrup of Dover's powder given to produce sleep in the evening. Temperature about the same.

July 20.—The rectal temperature remained near 103° all day; at 6 p.m. it rose to 103.4°. Respiration 40 to 50. Pulse 160. Passed very little urine of high concentration. Took about 16 ounces of milk. Coughing attack continued very frequent.

July 21.—The temperature rose to 104.2° at 3 p.m. Took a little less food and the diarrhea was better. Peptonized milk was given. On careful physical examination, no inflammation was made out in the bronchial tubes and lungs. The high temperature was attributed to an infection of the larynx and trachea, and as the possibility of a general pneumonia seemed imminent, 10 cc. of streptolytic serum were injected at 9 p.m.

July 22.—The rectal temperature was lower—102.4 to 103°. Eighteen ounces of food were taken. Ten cc. of streptolytic serum were injected at 10 a.m. Perspired very freely in the afternoon for the first time.

July 23.—The rectal temperature was much lower—100.4 to 101.8°. Pulse 132, respiration 36. Expectoration greatly diminished—in fact almost reduced to the vanishing point. Ten cc. of streptolytic serum were injected at 10 a.m. Child improved in every way.

July 24.—Rectal temperature ranged from 99.6 to 100.8°. Takes much more milk; paroxysms markedly diminished in severity.

The improvement continued steadily. July 25th the tube was coughed up, after having remained in position for 10 days. Dr. Levy was called in the emergency and found the patient in such distress as to require reintubation at any moment. However, a hypodermic of morphin, gr. 1/48, produced a marvelous change for the better within a few minutes.

The patient was closely watched until the next morning

but no further untoward symptoms occurred. The voice gradually returned to its normal force and strength.

* * *

As to the necessity for intubation in this case there could be no question. The child had suffered three attacks of laryngospasm, the last so severe that artificial respiration became necessary at the close of it.

Whilst authors mention this procedure as a remedy in pertussis it would be well if it were urged as a vital necessity in these not very rare cases of such paroxysmal severity as to endanger life.

Even if the child does not die in convulsions, cerebral hemorrhage is invited, as is also bronchopneumia, owing to the futility of the cough in getting rid of mucus.

The use of streptolytic serum marked the termination of another dangerous phase of the case. Pulmonary infection was imminent, as shown by the temperature and respiration as well as by the large quantities of purulent secretion ejected. The immediate cessation of this secretion was even more remarkable than the fall in the temperature and the rate of respiration.

The third crisis in the case was passed when the injection of morphin saved from the necessity of reintubation, with its prolonged era of possible extubation and reintubations.

[3003 LAFAYETTE AV.]

Air de Luxe.

W. P. Northrup says that civilized man has learned how to eat and drink and how to wash, but he has not yet learned how to ventilate. The author depicts the unhygienic conditions existing in most places of public assemblage owing to the lack of fresh air, and says that the need for reform in this regard is also great in private dwellings. The curse of modern living is overworking, overeating, and lack of ventilation, not to mention worry and hasty eating. The suggestion is made of utilizing the roofs of dwelling houses as sources of fresh air, by constructing roof gardens.—*Medical Record*.

CURRENT EDITORIAL TOPICS.

Medical Charlatanism in Germany.

Otto Neustätter, of Munich (*British Med. Jour.*, June 9-30, 1906), writes an intensely interesting article showing that the practice of medicine is practically open to all in Germany. He says :

"The driver, the professor of gymnastics, the teacher of swimming, even the dancing master and the vendor of old clothes must possess certain qualifications without which he may be forbidden to follow his trade. But the mortal who makes it his business to treat sick people, and in whose hands life and health are laid, may be little better than a scamp. Of him is demanded no general education, nor even ability to read and write, and he may understand as little of the medical art as a new born babe. The person who considers himself fit to doctor his fellow mortals is fit to do it and justified in doing it, and that is the sum of the matter."

This condition is explained by the statement that the legal protection is extended to the title of "Artz."

"In order to practice it is unnecessary either to possess a certificate of any kind or to have any moral or technical qualification: In a word, the calling of a doctor is free to any one to profess as long as the title of 'Arzt' is not used."

The author then details the history of how this was brought about. In order to free themselves from some annoying limitations, the physicians secured the repeal of a law regulating the practice of medicine. He then narrates the effect of this repeal in the increase of quackery and the after efforts of the medical profession to secure new legislation.

Some examples of the power of the more successful charlatans to amass fortunes are worth quoting :

"The Shephard Ast, of Radebruch, celebrated for his diagnoses made from hair cut from the nape of the neck, cured all and everything with a tincture composed of rhubarb, lemon and fennel, and with his net proceeds bought a country seat worth \$57,500.

"In the course of 15 years the taylor's apprentice Jost, afterward

found guilty of fraud and unnatural prostitution, became a millionaire by means of his magnetic fraud. Goessel, who diagnosed from trouser buttons, pieces of worn shirt, etc., earned enormous sums with magnitized parsley. Glünicke, a lawyer discharged for libelous incidents, pretended to dissolve the foreign elements stored up in the blood by his non-poisonous vegetable portions, and to be able to expel such diseases as cancer, syphilis, tuberculosis and abscesses by means of the 'gases which were generated.' This humbug at last pocketed no less than \$30,000 a year for his absolutely worthless concoctions, made up of almost nothing but oakbark."

The article attempts to estimate the amount of money expended in Germany upon these impostors and then reports the result of several investigations as to the harm actually done to many of their credulous victims. The efforts to bring them to justice and the frequent leniency of the courts are also detailed :

"In the case of a little humpback, whom a female quack promised to cure by means of sugar balls, no conviction was obtained; the jury assumed it to be possible that the woman had believed in the efficiency of the treatment! In the case of a patent medicine swindle, a Dresden jury showed clemency 'because we are living in the time of nostrums.'"

The methods employed by the German "irregulars" is very familiar to us, spacious advertising, treatment by mail and all the rest. The author thinks that "Nature cure" is enjoying at present the most wide spread popularity. He gives the following figures :

"Out of 4104 quacks in 1902, 3761 were Nature cures and 770 cured by means of water, * * * 145 worked by means of magnetism, 79 by electricity, 78 by plant cures and drugs, 74 by afflation, 37 by means of herb cures, * * * 23 by sun baths, 14 by hypnotism, * * * 6 by Christian science, 3 by laying on of hands, 2 drove devils out, 1 spat on his patients. * * * It may be interesting to mention, by the way, that out of the 4104 quacks * * * more than 11 percent had previously been convicted. * * * Out of 1440 quacks about whom we were informed, 1135, or 79 percent have enjoyed only the lowest type of schooling—the Volksschulen."

The article concludes with an enumeration of the efforts made to prevent these frauds and what has already been accomplished.—*Bull. Amer. Acad. Med.*

The Doctors' Trust.

An editorial note of the *Journal of the Michigan State Medical Society* should be generally read :

" 'Beware the Nefarious Doctors' Trust' is the title of a recent circular sent out by the Proprietary Association. Commenting on this, *Collier's Weekly* says editorially—'The only medical combinations with which we are conversant are devoted mainly to the protection of the public. Most states, and many cities, have voluntary organizations of physicians banded together for the unselfish preservation of the public health. We can not recall any conspicuous services of patent medicine venders in this line of endeavor. They are committed, rather, to the opposite purpose, that of undermining health by frightening people into illness. When our physicians begin to frighten patients into illness by false diagnoses, when they guarantee cures and then go back on the guarantee, when they undertake to banish incurable disease with secret and mysterious remedies, when they fasten drug habits upon the innocent for their own profit, then it will be time enough for the nostrum trade to rebuke the sin of the doctor.'

"That honesty is the best policy is, by the way, again demonstrated by *Collier's*. Realizing the duty of a great magazine, the editor took up the patent medicine evil and out of principle refused advertisements which the previous year netted \$77.088. But this sacrifice to logic and principle was unexpectedly offset by new business which more than equalled that which had been lost. It is to the credit of the business public that they have thus recognized that it is better to be represented among clean advertisements rather than surrounded by announcements of cure-alls, cocain nostrums, 'medicinal' whiskies, *et al.*'"

Gynecological Treatment.

An editorial writer in the *Annals of Gynecology and Pediatrics*, August, 1806, protests against what appears to be a common conception of physicians, namely, that the practice of giving local treatment in minor pelvic ills has been found unnecessary. In other words, minor pelvic ills are purely medical diseases, and the old practice of hot douches, local applications and the tamponade should be discontinued. He regards this view as irrational. To quote :

"The question that arises, if there are cases that can be relieved by local treatment, what are the conditions that cause patients symptoms and how far can local treatment relieve the same ?

"When one has been engaged in a large amount of clinical gynecology he is surprised at the relief of symptoms produced by careful and scientific local treatment.

"It is so common a local history in clinical work for patients to state that after four or five treatments they feel better, have less pain than they have had for a long period of time previous to the treatment, that it is impossible to disregard this clinical evidence, and the writer believes that it is absolutely wrong to deprive this class of patients of the benefit. The class of patients best relieved are acute inflammatory conditions of the internal and external genitalia, the bladder and the rectum. Subacute chronic inflammations of these structures without operable conditions are also in this class where benefit may be expected.

"The relief of pain alone due to the lessening of pelvic congestion and the relief of inflammation of the parts that are within the reach of local treatment, is warranty enough for the so called local treatment. It goes without saying that the one who has to give local treatment must have enough gynecological experience to enable him to distinguish a cystic ovary from a purely congested or inflammatory condition. The gynecologist who depends alone on local treatment and disregards general medical care, hygiene and surgery is rightly and ought to be relegated to past ignorance, and I believe that it is as irrational to eliminate local treatment and leave the patient alone to general medicine and surgery.

"The general surgeon does not operate for the removal of every inflamed portion of the body that he is called upon to treat. If he did there would be much irrational mutilation that would be far more apparent than irrational gynecological mutilation. It is of great importance that the methods used to relieve the pelvic inflammatory conditions are rational and adequate, and carried out by careful and scientific men before local treatment of gynecological conditions is relegated to the past."

An Unsatisfactory Medicinal Term.

"There are a number of descriptive terms applied to a variety of diseases which are acknowledged to be unsatisfactory and indefinite, and yet the numerous suggestions made for substitutes have failed of adoption. Among these may be mentioned the word 'rheumatism,' which is still in constant use to denominate pathological conditions which it entirely fails to describe. Like so many other medical terms, its adoption by the laity has fixed it in our language, but this fact should not interfere with the attempts to find a more suitable scientific appellation descriptive of this systemic disease. It has come to be

quite commonly accepted by many medical writers that a toxemia constitutes the basis of all disorders ordinarily classified as 'rheumatic.' Some believe that this is of exogenous source, others that it is the expression of a disordered metabolism; but very likely it is a combination of both, and until we are more intimately acquainted with the specific nature of the disease general terms must still be employed to describe it.

"Fairbairn, writing in the *New York State Journal of Medicine* for March, 1906, suggests that the generic term 'toxic' will satisfy both theories and as the local manifestations are of an inflammatory nature, the ending 'itis' may be appended to the part most prominently affected. Thus there results the combination, 'toxic arthritis,' and although this is somewhat indefinite, it nevertheless suggests the source of the disturbance, which the other does not. In order to avoid confusion with gout, the writer applies the term 'uricacidemia' to the later. Both 'malaria' and 'rheumatism' have constituted a haven of refuge for obscure complaints without end, which have been admitted to one of these classifications because it was the most convenient things to do. When a disease condition is without pathognomonic characteristics, we must rely on a certain symptom complex in order to make a diagnosis and this method has been applied in those states denominated rheumatic. We are unable in the present state of our knowledge to determine the specific agent which causes the condition to which the term rheumatic is ordinarily applied, but it bears most of the earmarks of an infectious process, the result of which we may describe as a toxemia.

'Fairbairn's suggestion that we refer to the condition alluded to as a toxic arthritis, seems quite logical and it might well be adopted until a more intimate knowledge of the etiology will afford the means of furnishing us with a more appropriate appellation.'—*Medical Record*.

The Retroversion Pessary.

"It is but a few years ago that pessaries played a prominent part in gynecological practice. Indeed, there was hardly an ambitious young practitioner of gynecology who did not essay to win his spurs by inventing a pessary, and many of the products were ludicrous. Some special form of pessary was used, at least by its own inventor, for each variety of uterine displacement, real or fancied. But gradually the consensus grew that the Hodge pessary or some modification of it, especially Albert Smith's, was the only suitable instrument for general use. This was a step in the right direction, though erroneous notions were entertained as to the action of the pessary, notably the

preposterous idea that the upper bar of the pessary pressed the body of the uterus forward into place. There were a few practitioners who felt convinced that this view was incorrect, and they did not hesitate to say so, but their protests made no impression upon the makers of textbooks. Pessaries were used indiscriminately and without the employment of even an elementary degree of skill in their adaptation. The general result was in the highest degree unsatisfactory, and soon pessaries were almost entirely discarded. This action was doubtless hastened by the introduction of various operative procedures for the cure of uterine displacements."

The *New York Medical Journal*, September 1, 1906, regrets that there is a tendency in some quarters to abandon the use of the pessary altogether. The pessary has its use and attention is called to articles by Drs. Hill and Slocum on the subject in the same number. The pessary has its limitations and Hodge's pessary may yet be improved.

Pig's Liver as a Remedy.

We have commented before on the necessity of regarding all carefully made experiments as legitimate, however absurd they may seem. To these singular instances the remarkable case reported by Professor Henri Desplats (*Journal des Sciences Médicales de Lille*, July, 1906) may belong, and yet there may be some truth in his results. We quote from the *New York Medical Journal* :

"It was that of an intemperate man, aged 35 years, who appeared to have had cirrhosis of the liver. At least he had ascites of such a degree as to require his being tapped 14 times between December 12 and March 31, the liver was enlarged, there was a moderate manifestation of a supplementary venous circulation in the abdominal wall, and there were endothelial cells and a few lymphocytes in the ascitic fluid. He had other serious ailments but their nature does not seem to have been made out very clearly. There was quite a persistent hematuria and this was thought to depend on tuberculous disease of the kidney. At a certain period of his illness there was a cake-like exudate within the abdomen and that was supposed to be connected with tuberculous disease of the omentum.

"The most notable feature of the treatment was the employment of enemata of macerated pig's liver; 23 such enemata, each containing about an ounce of fresh liver, were administered between February 6 and March 30. The man recovered completely from all his ail-

ments and was able to resume a rather active occupation though he did not reform his habits.

"Professor Desplats regards the use of pig's liver as an example of opotherapy and to it he attributes the man's recovery. He states that in a previous instance of a similar sort he had used the same treatment with success. It may have been opotherapy which got the better of the hepatic disease and perhaps the repeated tapplings were sufficient to overcome the tuberculous affection of the omentum if that really existed, but it is not easy to understand what it was that cured the hematuria if indeed that depended upon tuberculous kidney disease. However, the remedy must certainly be innocent and it may be well to try it in cases of hepatic cirrhosis."

Ankylostoma Infection Through the Skin.

Eight years ago Looss made the first observation on the entrance of ankylostoma duodenale through the skin; since then he has repeatedly demonstrated the truth of his original observations and various investigators in Europe, Africa and America have confirmed this interesting fact. The *Medical Record* of September 7, 1906, comments on this subject:

"Looss himself, soon after his first announcement, studying the habits of the Egyptian farm laborers, a class much afflicted with the disease, expressed the opinion that possibly a very considerable percentage of sufferers were infected in this way. These people do most of their work standing with bare feet in the freshly irrigated fields, ankle deep in mud, which is one of the best media for the development and preservation of the ankylostoma larvæ. Their habits in regard to the natural necessities are not the most fastidious, and as the stools of many of them contain ova, infection through the skin of the feet and legs seemed more than probable. Additional support for this view was furnished by the frequency with which these laborers suffered from a dermatitis of the feet, similar in many respects to the dermatitis produced in persons experimentally inoculated."

From the report of the United States Commission on Anemia in Porto Rico, it appears that the observations of Looss is to have a most important part in the prophylaxis against this disease. The commission concludes that the skin is the usual route of invasion. Nearly all patients who suffer from ankylostoma give a history of a dermatitis of the feet and legs. To quote further:

"Two very striking cases are cited in this report. The first was that of a negro who was employed in digging the latrines for the burial of the infected stools used at the laboratory. Soon after beginning his work this man complained of being 'eaten up by mazamorra.' Sixteen days later he reported himself too weak to work and at this time examination of his stools revealed the ova of uncinaria in large numbers.

"A still more convincing case was that of a soldier who was admitted to the San Juan Hospital suffering with severe mazamorra. He had been employed in digging some pits near Morro Castle and had been doing his work barefooted. This man was sent to get some of the mud of the pit which he held responsible for his disease. In this mud larvæ of the parasite were found in abundance.

"There seems to be no link missing in the chain of evidence necessary to prove that entrance through the skin is a frequent and dangerous source of infection; and the discovery of this mode of entrance—made almost accidentally by Looss in 1898, now corroborated by many other observers, promises to put the prophylactic measures against ankylostomiasis on an entirely new and simple basis."

Public Interest in the Drug Question.

It is said that the present warfare against quackery has resulted in the destruction of several lucrative business enterprises—foisting worthless drugs on a gullible public. *Collier's* continues to do good work in opening the eyes of the blind, who would not see that they were dupes. *American Medicine*, August, 1906, discusses a subject very vital to physicians:

"Public interest in the drug question has been aroused by the present warfare against the nostrum evil, but the comments of the lay press leave considerable doubt as to whether this interest is working for good or evil to the cause of scientific therapy. When laymen heard that 44 percent of Boston prescriptions call for patent medicines the composition of which is unknown to the doctor, they immediately jumped to the conclusion that a sick man might just as well trust to the advertisements as to the doctor, and save the latter's fee. Of course it is difficult to convince them that no sick man can diagnose his own case, as judgment is warped by every illness, but we can reach those needing help if they are convinced that we know what we are prescribing and that we prescribe for a definite purpose. The accusation made at one of the recent Boston meetings, that we are often densely ignorant of what we advise our patients to take is a most serious charge.

If true, there is need of considerable house-cleaning in our medical store-house.

"The paucity of specifics is not a blot upon medicine, but it should be widely advertised as a desirable fact for laymen to know. Oliver Wendell Holmes said that if we keep five or six drugs and cast the rest into the ocean, 'it would be better for mankind—but bad for the fishes' Since he spoke we have learned of a half dozen or more, and have succeeded in making some palatable mixtures of others which have proved their usefulness, but the opinion has become fixed in the lay mind that there is a separate drug for each disease and each symptom. The sick demand drugs and will dismiss the physician who does not prescribe them—a human trait about as old as man himself. Is the physician to go with the tide or try to check it? Surely good can come from this side of the present agitation and if every physician prescribes only that of which he knows the composition and gives it for its known effect, there can be no blot upon our methods. Let the public be freed of their false opinions and the self-prescribing nostrum evil will correct itself."

Problem of the Degenerates.

Castration has again and again been advocated in order to check the hereditary transmission of various degenerative diseases. The *New York Medical Journal* of August 25, 1906, comments on the recent paper of Rentoul who proposes that the propagation of degeneracy be stopped by resecting portions of the oviducts in females and the vasa deferentia in the males. To quote :

"We have not the slightest doubt that Rentoul's motives are entirely praiseworthy and the operations which he proposes (the same as has been advocated by others) would of course render the subjects sterile. But we question if he has duly considered all the consequences that might be involved. Let us refer briefly to some of the possible results. Among the natural rights of all human beings is that of begetting children. Many men are highly desirous of progeny and with most women the yearning for maternity amounts to a passion. Shall we deprive them of the possibility of gratifying these natural and perfectly legitimate longings simply because we fear that the laws of heredity will result in their begetting children that will be troublesome to society? We know too little of those laws to justify us in seeking to avert their consequences by wholesale obliteration of a natural right.

"There is another moral point to be thought of. Take away a

degenerate man's dread of having a baby 'sworn on to' him, and his lust runs riot. Seduction becomes his pastime. On the other hand, many a degenerate woman maintains her 'physical virginity' under no other influence than fear of illegitimate maternity. Relieve her of that dread and she is straightway on the road to the brothel. What a fine state of things would soon result from the consequent unrestrained licentiousness! No, we can not afford an experiment fraught with such a prospect. Rarely it ever is it safe to tamper with the course of Nature and never in quest of a dubious benefit. We can not, therefore, approve of projects for furthering the general welfare by rendering degenerates incapable of procreation."

Subcutaneous Injection of Fats.

Feeding by injecting foodstuffs hypodermatically has been an ideal sought by many clinicians, but as yet no progress has been made in perfecting this art. Outside of oil inunctions and saline solutions the skin does not offer a promising membrane to supply nutriment. Proteids, undigested, are toxic and sugar is rapidly excreted by the kidneys; hence, the only nutritive constituent which might promise success is the fat. Animal experiments, however, have demonstrated that the absorption of fat from the subcutaneous tissue is very slow. The *Medical Record* of August 25, 1906, refers to some experiments by Winternitz :

"This theory has now been put to further test by Winternitz and the results of his new experiments have recently been published. A certain number of dogs received subcutaneous injections of fat containing a definitely known quantity of iodine and were also fed freely in the usual manner. An equal number received the same quantity of fat subcutaneously but otherwise were fed very sparingly. The animals were killed 8 days after the last injection and in those which had been freely fed the iodized fat could be readily demonstrated in the adipose tissues of the liver, the bone marrow, the mesentery, the heart and the kidneys, but in the poorly fed subjects none of the organs and tissues mentioned contained any traces of the same. This seems to show that in the well fed animals a part of the absorbed fat was deposited in the adipose tissues and that in the others it was used up or oxidized.

"If the fat is absorbed to only a limited degree then the amount of iodine in the blood must also be necessarily small, and this was found to be the case in observations conducted for this purpose. Now, the

fat undoubtedly disappears within a few hours from the site of injection in these starved animals and the question will naturally be asked—Where does it go?

“Winternitz claims that it is simply present as a foreign body in the tissue spaces and in this way spreads itself over a large area of the body, but it can not be said to undergo absorption in the accepted sense of the term. The lymphatic spaces represent essentially closed cavities and the fat globules must pass through the endothelium or else reach the circulation directly, which would mean that absorption can take place only very slowly, for the favorable conditions present in the intestine do not hold here. He believed that if the fat was given subcutaneously in the form of an emulsion it would more closely simulate the natural conditions.

“Winternitz made such a preparation combined with a pancreatic ferment; but these attempts also resulted in failure, for not only was the degree of absorption even less but in spite of all precautions the danger of infection was always imminent here as in the other cases.

“The unfavorable results obtained by this observer would warrant the conclusion that the value of subcutaneous feeding is very questionable and that in view of the dangers and uncertainties of the procedure it had, perhaps, better be given up and relegated to the scrap heap of abandoned therapeutic suggestions.”

Epilepsy.

“The pathology of epilepsy, if there is such a thing in the strict sense of the word, in the idiopathic types; that which antedates convulsions, is still partially, perhaps wholly, an unsolved problem; for what we may believe to be pathology now may be found later to be an anatomical or histological summary of the results of seizures and to bear no direct relationship to the actual causes of the convulsions in the first instance.”

“Food, hygiene and proper environment, minutely arranged and scrupulously observed, are doing so much to palliate or cure diseases formerly thought to be beyond cure or even palliation that the time is come when when we may fairly ask: Is epilepsy a disease of metabolism? Is it such wholly or in part? We can do but little more just now than ask the questions, justifying them by the light of experience and on the ground that after eliminating the factors in treatment by means of drugs, surgical intervention and the like, the proper dietetic treatment of the disease in many cases is the one thing that most frequently produces the best results, provided important collateral measures not implying the use of drugs or surgery are not overlooked. The conviction is constantly gaining ground that the causes of epilepsy are

not so much to be sought in the gross disarrangement or partial destruction of cells in any part of the brain—such as would result from an injury or hemorrhage, as in the temporarily perverted chemistry of such cells.

“With this idea in view the laboratory work at the Craig Colony for Epileptics, under the immediate direction of Dr. James F. Munson, a graduate of the University of Michigan and for 2 years assistant to Dr. Victor C. Vaughan, is about to proceed along new lines. No problem in medicine is more profound than that underlying the causes of epilepsy and if any results are to come from Dr. Munson’s work at Sonyea, they should not be expected short of years of patient investigation.”—*New York Medical Journal*.

MEDICAL DIGEST.

DEPARTMENT EDITORS.

Dr. M. A. Bliss, Neurology.	Dr. Adrian Bleyer, Internal Medicine.
Dr. H. N. Chapman, Electrotherapy.	Dr. Carl Fisch, Bacteriology and Pathology.
Dr. W. L. Johnson, Diagnostics	Dr. M. J. Lippe, Pediatrics.
Dr. Philip Newcomb, Therapeutics.	Dr. J. C. Salter, Physiology.
Dr. C. D. Scott, Dermatology.	Dr. L. M. Wafield, Experimental Medicine.
Dr. O. A. Wall, Jr., Pharmacy and Materia Medica.	

Test for Acetone.

Acetone has been found in the urine in a number of different clinical conditions and its presence from a diagnostic standpoint has a definite significance. In the cyclic vomiting of children, also in hyperemesis gravidarum this substance with diacetic acid is excreted with the urine. The simplest is what is known as Lieben’s test:

To a few cubic centimeters of urine a few drops of a dilute solution of iodopotassium iodid is added and then potassium hydrate. A precipitate of iodoform indicates the presence of acetone. In most cases, however, it is safer to distil the urine and use a few cubic centimeters of the first distillate.

The *American Journal of Clinical Medicine* credits the following test to Dr. Frommer:

“The reagents are potassium hydroxid and a 10 percent alcohol solution of salicylic aldehyd (1 part salicylic acid and 10 parts of ab-

solute alcohol). About 10 cc. of urine are put in a test-tube and 1 gram of solid potassium hydroxid is added; before the acid is dissolved 10 to 22 drops of the solution of salicylic aldehyd are added and the solution is heated to about 70°C. In the presence of acetone there is found a scarlet-red ring. According to the author even the minutest amount of acetone will give this reaction and no other constituent of the urine will give a similar color—not even diacetic acid. The reaction is explained as follows: One molecule of salicylic aldehyd combines with 1 molecule of acetone to form oxybenzalacetone. This in the presence of strong alkalies forms dioxy dibenzol acetone. The alkaline salts of this compound are intensely red.”

Hysterical Fever.

Clinicians are still reporting cases of hysterical fever but there is as yet very little evidence to substantiate the theory that psychical or emotional impulse can modify thermataxis to any marked extent. Most cases of hysterical fever reported can not stand the rigid scrutiny of scientific criticism. Voss recently has placed himself on the side of those who regard such a fever as a possibility. The subject is discussed in the *New York State Journal of Medicine*. Two possibilities call for consideration:

“I. Reports of Hysterical Fever usually refer to cases of irregular and at times excessive rises in temperature, often with slight evidence otherwise of bodily disorder.

“This form is doubly considered in the *Deut. Ztschr. f. Nerven.*, March 22, 1906. In an article by Voss of St. Petersburg he accepts the reality of this form, gives 2 cases (questionable however) and draws the following conclusions:

“1. Rise of the body temperature to hyperthermia belongs to the symptom picture of hysteria. It occurs almost exclusively in severe cases and often as an accompaniment of convulsive attacks.

“2. The febrile phenomena are a primary symptom and not a sequence of the increased muscular activity during the seizures.

“3. All the phenomena of the vasomotor diathesis (fever edema, polyuria, skin affections) can most readily be attributed to the lesion of the respiratory cortical centers.

“4. The diagnosis of hysterical fever is only to be made when no organic disease is present that might occasion the rise in temperature.

“Stimulated by this article, the editor, Strumpell reviews the subject anew (partly on the basis of his early warning, *Ibid*, Vol. 2, pp. 353-4). He very properly holds that proof of the reality of such a

fever is entirely lacking. In suspected cases the doctor should employ a tested thermometer, himself insert it in the rectum and watch it every instant there. In many of these cases one should be suspicious in view of the patient's good general condition, unaffected pulse and respiration, the not specially hot skin, etc. He sets up as a criterion, somewhat novel, that at least as many of these cases must be proven to be true beyond suspicion as have been shown to be frauds, before the reality of such a thing as hysterical fever can be accepted as demonstrated. He grants that he has not always been able to find how the febrile rise was simulated. A sudden pressure on the bulb of the thermometer may, he suggests, be one way. Several cases of his own observation are given, all of which proved to be fakes. He also urges skepticism in relation to all unusual symptoms in hysterics.

"II. The other possible form is of a different character. Nor is the reality of the fever usually as open to question as in form I; the uncertainty here is in its interpretation. In these cases is found a more or less continuous and slight elevation of the temperature, that goes on for weeks or a longer or shorter period. The amount of rise is rarely more than 1 or 2°, with some intercurrent variations. The more careful the determination the more definitely is the fact of a rise established; in fact only observers who are exact on this point become aware that there is any rise at all.

"If there is such a form as this little is known of it. Sarbo (*Arch. f. Psycht.*, Vol. 23) touches upon it. The assumed cause is here more difficult to disprove in form I. The question can only come up if at all when such a rise is noted in individuals presenting an essentially hysterical group of symptoms with an absence of any other discoverable explanation.

Treatment of Chronic Bright's Disease.

Samuel West (*Lancet*, April 14, 1906) insists that certain articles of food should be avoided in chronic parenchymatous nephritis:

"One is alcohol in all forms, another is meat extracts, whether in the form of soup or broths, or of the much advertised and popular extracts of meat; so also fruits and vegetables which are rich in irritating salts, *e g*, tomatoes, asparagus, gooseberries—and for similar reasons, salted and preserved meats. Why eggs are tabooed he can not understand, for they are composed of a very easily assimilated form of albumen and are an excellent supplement to milk. Nor does he see any reason for the prejudice which exists against red as distinguished from white meats, unless it be that some patients may find the one more easy of digestion than the other. Red meats contain no

more extractives than white. In both cases boiled meats are better to begin with than roast, as in boiling some of the extractives are dissolved away. The patients often crave for a little red meat and he does not know of any good reason for refusing them their wish."

The above is quoted from the *New York State Journal of Medicine* of August, 1906. No such definite dietary directions can be given in the granular kidney, but it is safe to adhere to a nonirritating diet. Contrary to what is usually taught, West declares that a patient suffering from interstitial nephritis should have an arterial tension above the normal. If low, it must be raised, hence digitalis may rarely be indicated. If the tension is too high it must be lowered by a reduction in diet, hot baths and diaphoretics. To quote further:

"Of drugs, he says that nitroglycerin is useful and may be given regularly 2 or 3 times a day, supplemented it may be by full doses of iodid of potassium. If it be desirable to increase the quantity of urine, caffeine or theobromin and its combinations, such as diuretin, are useful as having a stimulating effect upon the heart as well as on the kidney. Of all the drugs for chronic renal disease he thinks pilocarpin is the most useful. He can not understand the prejudice that seems to exist against it in some quarters. He has used it very largely and has never seen any disadvantage follow its administration; on the contrary, nothing but good. Apart from its general action many of the symptoms are distinctly controlled by it. Thus, headache and the exhausting restlessness so common in the latest stages of the disease may be relieved by pilocarpin more immediately and persistently than by any other means, and even threatened uremia staved off. He considers it the most useful renal remedy of all. He generally gives it by the mouth 2 or 3 times a day in a dose of $\frac{1}{6}$ of a grain of the nitrate. Subcutaneously, $\frac{1}{12}$ of a grain is enough to begin with. This produces nothing more than a gentle action of the skin. The profuse sweating or discharge from other parts of the body described is not produced by such doses even when repeated 2 or 3 times a day, nor has he ever seen anything like collapse or fainting follow them."

Scrofula.

Are we really getting back to the use of this term? There can be no doubt that originally this term was applied to a mild form of glandular tuberculosis and as such the name is obsolete. Some recent writers attempt to retain the name by applying it to certain varieties of chronic

pyogenic infection. A review of this subject by Brown (*American Medicine*, August, 1906) merits attention :

"The infrequency with which the term scrofula is employed in medical literature, except as a synonym for tuberculous lymphadenitis is so great that when the term is used we are disposed to criticize. Students of the present day are taught to regard it as a term of the past since the accepted view of its pathology place the conditions among the affections produced by the tubercle bacillus. Occasionally, however, some observer has sufficient courage to present his convictions to the contrary, but seldom does it happen that these convictions withstand close investigation.

"In a recent paper under the heading 'Scrofula,' H. G. Anthony of Chicago (*Illinois Medical Journal*, May, 1906), presents his views of the subject, which seem to have many points in their favor. It is to be regretted, however, that this term which has caused endless confusion should be given such prominence. This does not detract from the value of the paper, fortunately.

"The contention throughout the paper is that the condition known as scrofula is not tuberculosis but rather a condition of chronic pyogenic infection. This agrees with the views expressed years ago by Hensch and Baginsky. He shares the opinion of Cornet that the condition is one of chronic staphylococcus or streptococcus infection, and that no specific microorganism is to be found in connection with it. Anthony does not believe, as do many writers, that heredity plays any part in the production of the disease. In this connection he makes several remarkable statements. For instance, he says where there are several children in a family it is rare to observe more than one affected with this disease and also it is rare to obtain a history of the same disorder having been present in either of the parents during their childhood.

"Cases of chronic pyogenic infection of the nose and throat, he further states, may be observed in which the local lesions have entirely disappeared, leaving the distant skin and eyelid lesions to dominate the clinical picture. It would seem as though the writer was endeavoring to present a picture of a condition which requires considerable skill to differentiate from tuberculosis and this he concedes when he states that where scrofula or, more properly speaking, chronic pyogenic infection of the nose and throat is present, tuberculosis has become engrafted and that it can not be determined in a given case when this second infection has taken place. It is the observation of cases in which tuberculosis has become engrafted, he says, which cause many clinicians to believe that scrofula is nothing more than tuberculosis.

"According to his views, chronic pyogenic infection of the nose and throat constitutes scrofula and may exist independently of tuber-

culosis, although at times they are combined. This infection gradually invades the cervical, thoracic and abdominal lymph glands; it passes through the Eustachian tube into the ear and then through a perforated drum and external auditory meatus until it comes in contact with the skin near the external ear, producing impetigo. It may extend to the bronchial tubes. The eyes and skin, he says, may become infected by nasal and throat secretion, often carried to distant points by the fingers. This he declares to be the proper conception of scrofula.

"In considering the symptoms of the affection, he states that contrary to most writers, his observation has shown the disease most often in well nourished children and those with good appetites—sometimes voracious. Scrofulous children often take cold easily and the complexion is frequently clayey. The symptoms are never alike in any two cases. The eye manifestations include certain kinds of blepharitis, phlyctenular conjunctivitis and forms of keratitis, all of which Anthony thinks are produced by inoculation of microorganisms contained in nasal, ear or mouth secretion being carried into the eyes by the fingers.

"Concerning the cutaneous eruptions in scrofula he states emphatically that scrofuloderma is subcutaneous tuberculosis; it has nothing to do with chronic pyogenic infection of the nose and throat, and may develop in any part of the cutaneous surface. He believes that the term 'scrofuloderma' should be dropped entirely and the expression 'subcutaneous tuberculosis' used in its stead. In referring to erythema induratum scrofulosorum, he believes that it is confused with subcutaneous tuberculosis only by those who fail to follow closely Bazin's original description. The condition is one of fat atrophy and not a form of tuberculosis, according to Anthony, and may be due to toxins derived from chronic pyogenic infections of the nose and throat.

"In his remarks bearing upon lichen scrofulosorum he states that this condition is one of the many cutaneous manifestations of tuberculosis which is associated with a distant focus of tuberculosis. He is disposed to regard this tuberculid as a tuberculous toxemia. Chilblains, he thinks, are caused by tuberculous toxins and when present in cases of scrofula they indicate the presence of an engrafted tuberculous form of the disease. Excessive cold perspiration is a condition, according to this observer, often seen in scrofulous children as the result of pyogenous nose toxemia and may persist through life. Granulosis rubra nasi, a condition resembling acne rosacea, but occurring in childhood; impetiginous eruptions and certain forms of eczema he ascribes to chronic pyogenic infection of the throat and nose. He also remarks that a nontuberculous bronchitis is not uncommon in scrofula.

"In summing up the various points of this paper it would seem, according to Anthony, that there are two kinds of scrofula—simple and complicated, the latter being complicated with tuberculosis. The former would include nontuberculous lymphadenitis, certain ocular conditions, especially blepharitis and phlyctenular conjunctivitis, erythema induratum, excessive cold perspiration and *granulosi rubra nasi*, impetigo, eruptions resembling varicella, certain types of eczema and a kind of chronic bronchitis. The complicated variety is that in which certain manifestations of tuberculosis due to the toxins of the tubercle bacillus become engrafted upon the simple form. This embraces the cases in which tuberculous lymphadenitis, scrofuloderma or subcutaneous tuberculosis, lichen, scrofulosorum and other tuberculids, chilblains, etc., are observed. Even in the face of an argument such as this from such an authority, it would seem best to allow the term scrofula to rest undisturbed in the oblivion to which it has been consigned by the modern writers and teachers. The substitution of phrase—'chronic pyogenic infection of the nose and throat' would perhaps be a step forward if it is to be conceded that a nontuberculous variety of these various affections really exists."

Antiseptic Powders.

Antiseptic powders are continually increasing in number; probably none are superior to iodoform although the offensive odor of this chemical makes it undesirable. The new Pharmacopeia has furnished two excellent preparations by making iodol and thymol iodid official. The latter drug especially still continues to give general satisfaction and it is rare that any other antiseptic powder is needed.

Calcium iodate was studied a few years ago by Mackie (*Lancet*, 1901). It is formed by the action of a solution of chlorinated lime on one of iodine and potassium iodid. It is a crystalline powder, odorless and tasteless, and very slightly soluble in water. Its power as an antiseptic is great; moreover, it destroys foul odors in wounds. It can be used safely in suppurating wounds and cavities. As it is slightly soluble in water it can be used as a gargarism. Given internally in doses of 3 to 4 grains it checks putrefaction in the stomach.

A synthetic chemical that promises much is isoform, the chemical name of which is paraiodoanisole. It is a safe substitute for iodoform and according to Remier is tolerated well by patients. In operations on the nasal and aural cavities it seems to have a special place. It

facilitates epidermisation of the bony cavities. In suppuration of the middle ear its insufflation rarely disappoints the physician, and it is well adapted for intranasal tamponade.

Gastric Digestion.

Some very interesting observations by Friedenwald (*American Medicine*, August, 1906) go far to prove that a person in health with a strong digestion is not disturbed by rest or exercise as far as the digestive function is concerned. He gives the following practical rules:

"1. In a person with normal digestive powers it makes but little difference whether the individuals rest, exercise or sleep after meals; though after violent exercise or sleep the gastric digestion is slightly impaired.

"2. In patients suffering with superacidity and subacidity it is best to order rest after meals; after violent exercise or during sleep the digestion is impaired in these cases.

"3. In patients suffering with motor disturbances of the stomach it is best to prescribe moderate exercise after meals, for rest, violent exercise or sleep disturbs the digestion under these conditions."

Tuberculosis Again.

Reports on the favorable results of tuberculin in tuberculosis continue.—The remedy should certainly not be relegated to history. We quote from an abstract in the *New York Medical Journal*:

Gabrilovitch reports a series of 20 cases of pulmonary tuberculosis treated at his sanatorium in Finland with Koch's tuberculin in 1904 and 1905. If the remedy is injected properly, with all necessary precautions, its use does not present any dangers. Tuberculin injections can be used both in patients without fever as well as in those with a slight rise of temperature. The amount of cough and the quantity of sputum are not contraindications to the use of tuberculin. If no bacilli are found in the sputum, the occurrence of a febrile reaction always means the presence of tuberculosis in the organism. Tuberculin may be used not only when the apex alone is involved, but also in cases with more extensive lesions. The presence of cavities is not a contraindication to its use.

"The number of injections depends not only on the stage of the

disease, but on the condition of the patient, his weight, and the reaction produced. The initial dose should be small—not less than 1/100 mg. and not over 1/10 mg. The duration of the treatment may vary from 2 to 6 months. In 70 percent of the patients the cough was greatly diminished by this treatment; in 3 percent it was entirely abolished. In 60 percent of the cases the tubercle bacillus disappeared from the sputum of patients thus treated; in 75 percent the catarrhal conditions in the lungs disappeared, and in the remaining 25 percent they were markedly diminished.

“Tuberculin greatly improved the general condition of the patient, who gained in weight steadily under its influence. Other forms of treatment in the sanatorium, without tuberculin did not give as good results in such a short space of time. The tuberculin referred to here was Koch’s ‘old’ tuberculin.”

SURGICAL DIGEST.

DEPARTMENT EDITORS.

Dr. E. A. Babler, Surgery.

Dr. M. G. Gorin, General Surgery. Dr. Phil Hoffman, Orthopedic Surgery.

Dr. W. A. Shoemaker, Ophthalmology. Dr. H. J. Scherck, Genitourinary Surgery.

Dr. Selden Spencer, Otology. Dr. J. A. J. James, Rhinology and Laryngology.

Surgery for Trigeminal Neuralgia.

The present-day technic of excision of the flattened structure first noted by Meckel and Vieussens as a ganglion and named by Hirsch in honor of his teacher, J. L. Gasser—the Gasserian ganglion—for the cure of major neuralgia of the trigeminal nerve, is the fruit of centuries of study, research and practical experience.

The early practitioners depended solely upon drugs for the relief of this terrible, agonizing malady. Simple division of the affected peripheral branch was soon ushered into practice, but the divided ends united so rapidly that the practice fell into disuse. Albinus and Galen advocated excision of a portion of the diseased terminal branch. As early as the middle of the Eighteenth century Maréchal, who was the body surgeon of Louis XIV, performed neurectomy. Toward the beginning of the Nineteenth century John Haighton reported a case of tic douloureux treated successfully by division of the infraorbital nerve.

All sorts of methods of treatment were advocated but nearly all of them fell into disfavor. It is needless to attempt to mention them now. The first definite step toward the radical removal of the seat of trouble was made by Carnochan of New York. Carnochan advocated and, in fact, was the first to remove Meckel's ganglion and the trunk of the nerve beyond, at its exit from the foramen. He reached the ganglion through the antrum. In place of following Carnochan's procedure, Luecke resected the zygomatic arch and with the fascia attached turned it upward and thus reached the pterygoid fossa and the nerve and ganglion (Meckel's) which he resected. Naturally, the deformity after Luecke's technic was quite marked. In his attempt to modify Luecke's technic, Lossen turned the flap downward instead of upward, while Horsley raised the eye from the orbital floor, opened the infraorbital canal, followed the nerve until he could divide it at its exit from the foramen rotundum. As early as 1872 Pancoast resected the inferior division of the nerve at its exit from the ovale foramen.

It is gratifying to know that an American surgeon was the first to propose excision of the Gasserian ganglion for the radical cure of major neuralgia of the trigeminal nerve. In 1884, at the second annual meeting of the American Surgical Association, J. Ewing Mears of Philadelphia thus spoke :

"If in any case I believed or had evidence by the symptoms or by the appearance presented in the branches of the inferior maxillary division, that the morbid process had invaded the Gasserian ganglion. I would not hesitate to enlarge anteriorly the ovale foramen by the application of the bone bur attached to the surgical engine, and by traction draw down the ganglion from its position in the fossa upon the anterior surface of the temporal bone, and proceed in a cautious manner to break it up or remove by section with the small blunt-pointed scissors. The primary ligation of the internal maxillary artery precludes hemorrhage from either the meninges media or parva, the first of which is in intimate relation as it passes through the foramen spinosum and the second as it enters the cranial cavity through the ovale foramen. The position of the internal carotid artery as it passes from its canal in the petrous portion of the temporal bone into the cavernous groove, should not be forgotten and great care should be taken to avoid injury to it by going beyond and behind the margin of the ovale foramen."

It is true, Mears did not carry out this technic. In fact a review of the available literature shows that the first attempt to even divide

the trigeminal nerve by an intracranial operation was made by Horsley and Macewen, quite independently and about the same time. In both instances a high temporal opening was made; in both instances the patient succumbed. To William Rose of London belongs the honor of devising, performing and publishing the first operation of excision of the diseased Gasserian ganglion. It is equally true that this crude, bloody—almost terrible operation was successful! Rose excised the superior maxilla, trephined the base of the skull beneath the ganglion and destroyed the latter with the curette.

Later, Rose advocated excision of a portion of the ramus of the inferior maxilla, thus allowing a low lateral instead of a low anterior approach. Professor Novaro of Genoa was the first to carry out the modified technic. Today this operation has passed into the "beyond."

In 1891 Hartley of New York devised and performed an improved operation for the relief of major neuralgia of the trigeminal nerve. In 1892 he described the technic as follows :

"The operation performed was one in which an omega-shaped incision was made, having its base at the zygoma and measuring a distance marked by a line drawn from the external angular process of the frontal bone to the tragus of the ear.

"The curved and rounded portion of the incision reached as high as the supratemporal ridge, the diameter of said circle being 3 inches. The skin and deeper tissues were cut in the shape of the Greek capital letter omega, a method of incision I first saw recommended by Uhle two or three years ago. This incision was carried down to the periosteum of the skull in all portions of the incision except in the straight part at the base; the tissues were then stretched and the periosteum divided upon the bone in the same direction and as far as the straight part at the base.

"With a chisel a groove was cut in the bone corresponding to the divided periosteum. This groove went to the vitreous plate except at the upper angle over the rounded portion where it included the vitreous plate. A periosteum elevator was here inserted and used as a lever to snap the bone on a line between the ends of the circular portion of the incision. In this way the breakage occurs along the lower portion of the wound and a flap consisting of skin, muscle, periosteum and bone is thrown down exposing the dura mater over a circular area of 3 inches in diameter. The middle meningeal artery was then tied, the dura mater was then separated from the bone and the floor of the middle fossa of the skull exposed. Broad retractors were used to raise the dura mater with the brain and to expose the foramen rotun-

dum and foramen ovale. The hemorrhage was stopped by sponge pressure. The exposure of the first, second and third divisions of the fifth nerve, together with the carotid artery and cavernous sinus was exceedingly good.

"The second and third divisions were isolated at the foramen rotundum and the foramen ovale and by slight pressure upon the dura mater, it could be stripped from the nerve to beyond the Gasserian ganglion. These were divided with a tenotome at the foramen rotundum and the foramen ovale and that part between these and a point beyond the ganglion was excised. As this amount of nerve is not very great the ends of the nerves were pushed through the two foramina so as, if possible, to interfere with any reunion. * * * As no bleeding was present the brain was allowed to fill the fossa. The flap—consisting of bone, periosteum, muscle and skin, was replaced. * * * One drainage tube was inserted at the lower angle, an antiseptic dressing was applied. The patient made an uninterrupted recovery."

It is interesting to know that Krause of Altoona quite independently and at the same time devised a technic differing in no special way from that presented by Hartley, hence the operation is known as the Hartley-Krause method. Previous to the monograph of Cushing of Baltimore this method was the one followed by the greater proportion of surgeons since it was the most rational and practical. Cushing's technic is known as the infra-arterial; it is simply a modification of the Hartley-Krause—and I may add, a very important modification. In order to lessen the risk of injuring the middle meningeal artery and to facilitate the exposure of the ganglion, Cushing makes the base of the flap correspond to the level of the zygoma. The trephine opening is sufficiently low to escape the sulcus arteriosus in the anterior inferior angle of the parietal bone, which lodges the middle meningeal vessel and to give the maximum exposure with the minimum of cerebral compression.

Very recently Cushing, in order to avoid division of the nerve to the occipitofrontalis muscle, has changed somewhat the line of incision. The incision is now made within the hair margin. The posterior limb of the incision is carried down to the zygoma over the temporal vessel, which usually must be ligated. The skin flap is then reflected downward and forward by blunt dissection, the handle of the scalpel sufficing for the purpose. The temporal fascia, thus exposed, is incised in a line concentric with the skin incision and likewise re-

flected. The zygoma, which has been brought into view at the lower angle of the wound, is then shelled out of its periosteal sheath, not as formerly described by making an incision along its external surface, but by crowding forward its coverings *en masse*. The exposed fibers of the temporal bone may then be divided as usual by a horseshoe-shaped incision and the muscle scraped away with a periosteal elevator as far down as the base of the skull. In order to satisfactorily expose the skull a little deeper retraction of the flap is necessary than by the older method, the ordinary appendix retractor being used for the purpose of holding down the cutaneous and facial part of the flap as well as the muscle. A mallet and gouge or a bur affords an easy and rapid method of opening the skull; the primary opening thus made can be readily enlarged by means of the bone elevator and later, the rongeur forceps. There is no necessity for a bone flap. Lexer concurs that it is unnecessary.

Cushing emphasizes the fact that the exposure need never be made high enough to encounter the meningeal artery where it channels the parietal bone. He adds :

"A slight elevation of the dura brings into view the thin, transparent expansion of this membrane which makes a sheath about the N. maxillaris and here, I think, the serious task of exposing the ganglion by splitting its envelop and bringing into view its upper surface should always begin."

This infra-arterial route of Lexer and Cushing has many ardent advocates. In 19 out of 20 cases Cushing was able to extirpate the ganglion without complications from meningeal bleeding. In one instance the artery was torn at the foramen spinosum. Quite a few surgeons object to the infra arterial route owing to the lack of room; hence they prefer to ligate the artery at its point of entrance into the cranial cavity. In the experience of Cushing it is quite easy to insert the blunt dissector between the artery and the third division of the ganglion (N. mandibularis), though they be only a few millimeters apart, and to pry the ganglion forward, using the edge of the trephine opening as a fulcrum; in this way no strain need be put on the vessel.

Experience has demonstrated the fact that extreme care must be exhibited in exposing the upper surface of the ganglion since complications from pressure by the spatula may ensue. In 5 of Krause's fatal cases autopsies showed a superficial brown softening of the cor-

tex and once a hemiplegia. Lexer contends that the spatula must be placed in experienced hands; in fact, the operator should do the elevating. The infra arterial route necessitates less elevation of the brain than does the Hartley-Krause method.

In some instances hemorrhage is not only quite profuse but a decided hinderance to further advance. At times it may be necessary to perform the operation in two sittings. As a rule, however, patience wins the day. One moment the hemorrhage may seem to necessitate two sitting; when the packing is gently withdrawn it will be found that the field is clear. Ligation of the external carotid avails little or nothing. In only one instance have I observed an "apparent" benefit. As before stated, packing and patience combined with gentleness in removing the former will almost invariably win the day.

The operative complications may be very severe indeed. Concerning the complications, Cushing says :

"I have almost invariably while freeing the ophthalmic division of the ganglion either from pressure of the spatula used to elevate the brain or from packing used to control hemorrhage caused a pressure palsy of the oculomotor or abducens. Once, also, I had the lamentable ill fortune to tear into the cavernous sinus."

It is customary to drain the wound for from 12 to 36 or 48 hours. The structures composing the flap are accurately resutured so as to prevent gross deformity or widening of the scar. Since, however, the incision is made within the hair margin the scar is of no special import. The dry antiseptic dressing follows the silver foil application.

In 1896 Hanon clearly demonstrated that all changes of the cornea after trigeminal paralysis were consequences of external influences on the eye, unprotected through its loss of sensibility, and that this applied as much to the slight initial lesion, an especial consequence of dryness, as to the extreme degree of keratitis. In 1898 Keen said :

"The reason for corneal ulceration, loss of vision or loss of the eye (following excision of the Gasserian ganglion) is undoubtedly—first, the drying of the cornea, due to the want of appreciation of its drying and, therefore, to want of winking, by which the cornea is kept moist; and secondly, as another result of the want of sensitiveness of the cornea, either foreign bodies get into the eye or, as in one of my cases, a bandage over the eye may rub the cornea and thus produce ulceration and destruction of the cornea."

Keen advocated disinfection of the eye immediately before or at the close of the operation, and sewing the two lids together by two or three stitches, near the margins, drawing together only the middle of the lids. Four or five days later the stitches were removed and a Buller shield applied. Cushing depends entirely upon the Buller shield. A large watch glass whose edges are covered with a circular ring of adhesive plaster completely shuts out the air and affords ample protection. Cushing says:

"This protection should be worn for 10 days or longer after the operation, the length of time depending on whether the conjunctiva remains reasonably free from injection after trial exposures; then worn only during the day, and finally discarded entirely. I always insist, however, on its being reapplied at any time during the first month or six weeks when there is a greater likelihood than usual of conjunctival irritation from exposure of one kind or another—for example, during the journey home on a dusty train. A daily irrigation or not, according to the presence or absence of secretion, is advisable; otherwise nothing is needed. The chief object of this glass is to 'hot house,' so to speak, the eye and to insure moisture for the conjunctiva."

Abbé has found that the intervention of rubber tissue between the divided ends of the second and third divisions of the ganglion will afford a permanent cure of tic douloureux. He says:

"I would advise hereafter in grave cases of tic douloureux that the surgeon should not temporize by any of the external methods of operating, but at once resort to this, which now seems to me the proved and radical cure in its safest form. The external carotid artery may be ligated with advantage in controlling hemorrhage. A vertical incision over the middle of the zygoma carried through the temporal muscle to the bone divides no important nerve or vessels. The muscle is scraped to either side and held by retractors. A small opening is then quickly made by mallet and gouge and this is enlarged rapidly and safely to an inch and a half in diameter. No better exposure can be had by any incision than this simple straight one. The much complained of hemorrhage from venous sinuses on dissecting up the periosteum can be best controlled, and very quickly, by pressing a strip of rubber tissue upon the place with a firm pad of gauze in strips: * * The nerve trunks I grasp in separate artery clamps, divide each close to the foramen of exit and either by cutting or rotation of the forceps separate them from the Gasserian ganglion. The wound is packed for a few moments with narrow strips of iodoform gauze until dry. A piece of thin guttapercha tissue stiff enough to be easily handled is

sterilized by rubbing with bichlorid solution and placed in a salt solution for a few moments before operating; this is cut $1\frac{1}{2}$ inches long by $\frac{3}{4}$ inch wide and is laid carefully over both the foramen rotundum and ovale, where the nerve has been separated and pressed carefully into place by iodoform gauze. In a very few moments the gauze may be withdrawn and the Gasserian ganglion allowed to settle upon the rubber tissue. A small drainage tube should be placed in the angle of the wound for a few hours to insure perfectly dry healing."

The results were perfect. Just what becomes of the rubber tissue is not known. Abbé has not, in so far as I can ascertain from the literature, very many followers. It would seem that if the ganglion is diseased the relief would not be permanent. The future must determine the true value of the technic.

Spiller and Frazier have advocated division of the sensory root of the ganglion. Frazier has successfully carried out the operation in a number of cases. Cushing says:

"It is possible, should there prove to be a permanent ablation of afferent impulses from the trigeminal area of Spiller and Frazier's patients, that the clinical evidence thereby gained may, as is not infrequently the case, decide a question which experimental physiology has left unsolved. * * * Conclusive proof as yet is lacking, however, as to whether there is any regeneration centralward after the division of the sensory fibers proximal to the dorsal root ganglion."

In conclusion, we may say up to the present time the technic advocated by Cushing and by Lexer has been accorded the most favor. In 1899 N. B. Carson collected 208 cases of excision of the Gasserian ganglion and presented a complete and excellent review of the subject. The present mortality of the operation is almost 5 percent. Cushing lost 1 case in a series of 20; Lexer lost 1 in a series of 15. Recurrence after the complete operation is unknown. E. A. B.

Vaginapexy.

One of the most distressing affections to which women are subject is procidentia. Procidentia has its origin in the perineal laceration which occurs at the time of parturition and is due, usually at least, to the passage of the child's head. The process is of gradual development. Owing to the fact that the support of the tissues which hold

the rectum in proper position is lost, it is not surprising that a rectocele follows in due time. This abnormal position of the bowel is followed by a lengthening of the uterus and its ligaments, resulting eventually in a complete inversion of the vagina.

The question of proper treatment for the relief of this affection has been the field of extensive study and research. Various operative measures have been advocated but in many instances the end results were worse than the original condition before such intervention. It is obvious that the preventive treatment will prevent the distressing affection. Every perineum which has been lacerated during parturition should be repaired at the earliest possible moment. But what is to be done with the patient who has a complete prolapsus uteri? What method of treatment is productive of the best results?

Wiggins is confident that the disappointing results of surgical interference has been due to the operator's failure in most cases to recognize the fact that the vaginal wall in these cases is a hernial sac with other contents than the uterus, tubes, ovaries, bladder and rectum, and that consequently the simple repair of the external perineal body, the removal of a larger or smaller portion of the vaginal walls, or even the removal of the uterus itself, would not correct the greatest cause of the difficulty—usually the abnormal position of the small intestines. Wiggins says:

"In the elderly patients suffering from this disease who have come under my observation, many of them having external tumors of large size, the uterus has not been found abnormally enlarged and consequently could not be considered a factor in the causation of the trouble, and very many patients have come under my observation upon whom a hysterectomy for the cure of this disorder had been previously performed by other surgeons who stated that their tumors were larger than before the operation.

"Operative procedures required for the successful treatment of the class of cases under discussion are those that will first obliterate the inverted and stretched vaginal walls—which is in reality a hernial sac, and then restore the damaged perineal structures and the distended anterior vaginal walls as nearly as possible to their normal condition."

After the parts have been replaced, the erosions healed and the patient in a fairly good condition, Wiggins proceeds as follows:

"A median laparotomy is performed. The uterus is found and pulled upward by the aid of bullet forceps. A needle armed with a large size kangaroo tendon is passed through the fibers of the uterus at the point of its attachment to the round ligament and carried down the broad ligament in the form of a purse-string suture and back again, the needle being finally made to emerge at about the point of entrance, so that when the two ends of the suture are drawn taught the broad ligament on that side is folded up and drawn together, thus doing away with the excessive length and giving the uterus a new point of attachment near the insertion of the ligament at the brim of the pelvis. The same process is repeated on the opposite side. The abdominal cavity is then flushed with a saline solution, some of which is allowed to remain, and the wound in the abdominal wall is rapidly closed.

"If the patient is then in ordinarily good condition repair of the pelvic floor and reduction in size of the anterior vaginal wall are undertaken."

A few years ago Parsons advocated the removal, in severe cases, of a triangular flap of tissue from the posterior wall of the vagina; the edges are then brought together with sutures, and the usual flap-splitting operation on the perineum is performed. In those cases in which the prolapse persists in spite of the usual treatment he advocates hypodermic injections of quinin sulphate into the broad ligaments. Surely this is not only an uncertain but also an unscientific procedure.

Last year Polk presented an interesting technic. In partial procidentia he advocated amputation of the cervix as high up as possible, that is as much beyond the vaginal junction as may be without entering the peritoneal cavity, combined with an Alexander operation and repair of the pelvic floor. In complete procidentia he removes the uterus and attaches the vaginal stump to the anterior abdominal wall. In addition he repairs the pelvic floor. This operation for complete procidentia, he terms colpoorrhaphy.

A few months ago Graves called attention to a new technic devised by Baker and which he describes under the name "vaginapexy." Graves says :

"Vaginapexy, as its name implies, denotes an operation for stitching the vagina to the abdominal wall. The indications for vaginapexy are present in all cases where the vaginal attachment to the rami of the pubes has completely or incompletely given way and would, therefore, imply conditions of marked prolapse, complete or incomplete procidentia with accompanying cystocele. It may well in this con-

nection to clearly define the manner in which the term 'prolapse' and procidentia are used. Prolapse includes those cases where the uterus has dropped down from the normal horizontal plane in the pelvis but has not dropped far enough to appear at the vaginal outlet. Partial procidentia includes those cases where the os appears at the vaginal outlet and protrudes from it. Complete procidentia signifies that the uterus may be forced by abdominal pressure entirely beyond the vaginal outlet. * * * It is of course true that many cases of cystocele occur where the uterus still maintains its normal level in the pelvis and that the protrusion of the bladder into the vagina is simply a thinning out of the anterior vaginal wall without a loss of the lateral support. This class of cases can nearly always be cured by some one of the numerous forms of anterior colporrhaphy, if it be borne in mind continually that the real support in an anterior colporrhaphy should be taken from the lateral attachments of the vagina."

The technic of vaginapexy is thus described by Graves :

"The patient is placed in the Trendelenburg position and a small median abdominal incision is made. The intestines are then packed away with gauze in order to thoroughly expose the posterior cul-de-sac. Beginning first on the right side, a point is selected a little posterior and external to the peritoneal reflexion of the posterior cul-de-sac from the wall of the uterus. This point is then seized with the bullet forceps, the forceps being carried deep enough in order actually to seize the wall of the vault of the vagina. In order to ascertain whether or not the wall of the vagina is included within the teeth of the bullet forceps it is a safe plan to have an assistant insert his finger in the vagina so that he can give information as to whether the vagina is really being drawn up by the traction of the bullet forceps. When it is found that the vagina is firmly grasped a silk suture, preferably No. 10 braided silk, is passed through the peritoneum, rectus muscle and fascia of the abdominal wall about one half to three-quarters of an inch from the incision; it is then passed back into the abdominal cavity and included with the other end of the suture in a pair of snaps. The same procedure is then carried out on the left side and the two sutures tied, drawing the vagina firmly up to the uterus, the knots being thus left in the abdominal cavity. The abdominal incision is then closed with great care, in layers. In passing the suture through the floor of Douglas' pouch I have found it advantageous to employ the Broedel stitch for suspension of prolapsed kidneys since it gives far greater tensile strength."

Graves acknowledges that time has not proven the true value of the procedure; neither has it determined the subsequent dangers. Up

to the time of Graves' monograph but 19 vaginapexies had been performed. None of these patients had become pregnant since the operation. In 1 case there was a recurrence; this latter occurred in one of the early series—at a time when the vagina was stitched only to the peritoneum of the abdominal wall in the manner of a ventrosuspension. Concerning the operation, Graves says :

"It is of course necessary to avoid too great enthusiasm in the early stages of operative experimental work and it is for that reason that this paper is presented only as a preliminary report. It can, however, be said that we now feel the greatest encouragement in undertaking the surgical treatment of the distressing condition of procidentia. * * *."

Personally, I believe that the operation may find favor in selected cases; at present it should not be tried in patients who have not passed the menopause. Experience may show that the operation is open to the same objections as that of ventrosuspension advocated by Kelly. It is to be hoped that prompt repair of a perineal laceration will eventually render operations for procidentia unnecessary. E. A. B.

Hernia of the Appendix.

It is not at all surprising that the appendix has been found in the various abdominal rings. The free mobility and uncertain length of the cecum, combined with the variations in the position of the latter, are in part responsible for the divers places in which the appendix finds its way. Hernia of the appendix is not, in my opinion, the very rare condition that many observers seem to believe. I am sure that many cases have been observed but they have not been reported. In 1751 Morgagni reported his historic first case. Since then the profession have tabulated more than 130 cases. When we remember the distressing frequency of strangulated hernia and recall the mobility of the cecum and its appendage, we wonder that the appendix does not more often become incarcerated and eventually strangulated in the inguinal or femoral canal.

Rivet found that 70 to 80 percent of the cases of hernia of the appendix were inguinal, from 20 to 30 percent were femoral, and from 2 to 3 percent were umbilical, while about 1 percent were obturator. Rivet also found that 70 percent of the cases occurred in men. The

affection is more common in young children and in advanced life than in early adult and middle age.

Hernia of the appendix may be congenital or acquired. The congenital variety is generally ascribed to the formation in the fetus of adhesions between the appendix and the peritoneum covering the testis and gubernaculum. It has been held by various pathologists that the peritoneum in the fetus is frequently the seat of an acute or chronic inflammatory process and that the resulting adhesions are frequently the cause of anomalous positions of the abdominal viscera. Sandford's patient presented an appendical hernia at birth. It has been observed that the majority of cases of congenital hernia of the appendix present patent inguinal and femoral canals at birth; later the appendix becomes an occupant of same.

Perhaps the most important factor in the acquired variety of hernia of the appendix is the unusual mobility and length of the cecum and its appendage. Prüss pointed out the finding that the cecum usually becomes an occupant first, the appendix being thus dragged in by the cecum. In some of the recorded cases, however, I have found that the appendix was the sole occupant of the sac.

Very recently Macewan has reported 2 cases of hernia of the appendix; a case has also been recorded by Broughton and Hemetson. In Macewan's first case the appendix was the seat of an abscess while in the scrotum; in his second case the patient was a man aged 62 years, who had strained himself some 12 years previously while lifting a sack; the patient noticed a swelling in the right inguinal region, the swelling increased in size until it became quite large, at the end of a week the parts were red, tender and painful but gradually subsided. A truss was applied as soon as he was able to be up and about; this enabled him to perform his work in comparative comfort. Two weeks prior to consulting Macewan the patient began to suffer considerably, which he at first attributed to the truss. Upon entrance, Macewan found a large pyriform swelling affecting the right inguinal region and scrotum. The testicle appeared to be fused with the inflamed mass which was fairly firm in consistence and dull to percussion. No impulse was elicited on coughing. Pulse 78, temperature 98.8°. At operation an inflamed and thickened appendix was found in the hernial sac. The appendix was adherent and the mesentery of the appendix was much hypertrophied and loaded with fat. Further examination

revealed a pin in the appendix. The pin was directed upward and engaged at the point in the thick fibrous sac. The point of the pin had projected through a small ulcerated aperture in the wall of the appendix. Appendectomy was performed. No attempt was made to cure the hernia. Recovery was uninterrupted.

In the same issue of the *Lancet* (June 16, 1906), Broughton and Hemetson report a case of hernia of the appendix in which a pin was found in the appendix. The patient, a widow, aged 63 years, had suffered from a lump in the right groin for 24 years. Until the past few years the lump would disappear when the patient assumed a recumbent position. Three days before consulting Broughton and Hemetson, the patient lifted a heavy washtub; while doing so she was seized with a severe pain in the groin and lower abdomen. There was a sense of something giving way in the femoral lump, followed by moderately severe pain. Three days later the patient came under the attention of Broughton and Hemetson. Upon examination the pulse was 80, the temperature 99.6°, and a more or less rounded mass of about the size of a duck's egg was found in the region of the right femoral area. The mass was entirely below Poupart's ligament. Rectal examination showed that the uterus and its appendages were free. A diagnosis of inflamed femoral epiplocele was made. Operation revealed an abscess containing about 2 ounces of fetid pus; an incrustated pin was found in the débris. The entire gangrenous mass was isolated down to the saphenous opening, the appendix withdrawn and then excised. The sac also contained a mass of omentum, the latter was also excised. The patient recovered.

In passing, I might add that various foreign bodies have been found in the appendix. More than 50 cases of appendicitis associated with pins have been tabulated. Shot, bone, nails, worms, etc., have been found.

E. A. B.

Primary Urethral Calculus.

The fact that a stone of renal or vesical origin is sometimes caught during its passage through the urethra was known long before the Christian era. Aretaeus refers to the not infrequent necessity of removing stones that have been caught in, and are producing occlusion of, the urethra.

When we remember the physiologic anatomic conditions of the urethra it is by no means surprising that the caught stone is most frequently found in the membranous portion of the canal; it is surprising that the condition does not occur more frequently. In more than 400 cases of urethral calculus collected recently by Englisch the stone was found in the fossa navicularis in 43 cases; it was found in the pars membranica in 149 cases, and in the pars bullosa in 68 cases. The frequent occurrence of gonorrhea and the frequency of its resulting stricture would seem to indicate that urethral calculi are of not infrequent occurrence.

It seems beyond cavil that a stone may form in the urethra *per se*. An acquired or a congenital diverticula tends to favor the lodgment of a secondary calculus as well as the formation of a stone in the urethra primarily. I have been somewhat surprised, however, to find that so many of the cases collected by Englisch—all save one reviewed by me, were simply examples of secondary calculus. Englisch, Kaufmann and others are of the opinion that calculi retained in the urethra are usually secondary, having been preformed at higher levels and arrested in their passage, but they may be greatly modified after having become lodged. This single fact indicates not only the infrequency of primary urethral calculus, but also the difficulty of saying in a given case that it is not of the secondary type.

It is true that a secondary calculus causes severe lancinating pains; there is more or less interference with the passage of urine, and the symptoms are of sudden onset. In primary urethral calculus symptoms are usually mild and, in fact, may be absent for many years; the patient may detect a lump in the urethra but since it causes him only slight or no inconvenience he permits it to remain.

It must be remembered that a secondary urethral calculus may and often does become incarcerated in the urethra. Such a case has been recorded by Teevan. The patient had sustained a kick in the perineum which was followed by a stricture; later he contracted gonorrhea which latter was followed by a stricture. Teevan found a stone incarcerated between the two strictures; he felt sure that the stone had been arrested at the anterior stricture during its passage.

Warren reported a case in which the stone had been present for 7 years. The stone occupied a pouch in the urethra at the penoscrotal angle. Walton's patient had a calculus in the urethra for 50 years.

In 1879 Teevan tabulated a case of—in his opinion, primary urethral calculus. The patient had a traumatic urethral stricture. A stone was found impacted in the dilated portion of the urethra behind the stricture. The stone was composed largely of phosphates. The postmortem findings showed the bladder and kidneys free from stones and led Teevan to feel that the case was primary.

Recently Wolf has called attention to what he designates a case of primary urethral calculus. The stone was not found nor suspected during the life of the patient; he was septic and in a very precarious condition when admitted to the hospital. The stone weighed 23.62 grams; it was irregular in contour and appeared to be made up of two ovoid constituents fused together as they lay in contact by the deposition of urinary salts. In the nucleus of the stone was found a pea-shaped cavity containing a small amount of phosphatic débris. Wolf says :

"It may be readily inferred that this cavity was originally a mass of organic matter consisting of blood, pus or some other inflammatory product, resulting from the patient's early gonorrhea or some trauma, forming the nucleus for the future deposit, and as the organic matter was broken down and removed by a process of osmosis leaving an empty cavity."

Wolf found that the anterior portion of the stone was partially embedded in the diverticulum. The wall of the diverticula comprising all the coats of the urethra.

As before stated, it seems quite clear, I think, that it is very difficult to say positively in any given case that the stone originated in the urethra *per se*.

E. A. B.

Malignant Tumors of the Testis.

Colby, a few years ago, declared that malignant neoplasms of the testicle are more likely to be sarcomata, contrary to the statement of some older writers (Erichsen). More than half of the cases are in young men between the ages of 20 and 30 years. Trauma plays a part in about one-half of all cases. Cushing believes that there are two decades in which this disease occurs more frequently: First, from birth to the age of 10 years; second, in the decade of 30 to 40 years.

We quote from the *Medical News*, December 3, 1903, the article on diagnosis :

"The diagnosis of malignant disease of the testis is, as a rule, not difficult. The condition that most closely simulate it is tuberculosis of the testis, but only very rarely does this cause much difficulty. I have recently operated upon a case of tuberculosis of the testis, which very closely resembled sarcoma both as regards clinical history and physical characteristics. The disease was of short duration; there was a history of antecedent injury, smooth symmetrical enlargement, no involvement of the skin, no thickening of the cord; a small amount of fluid in the tunica vaginalis; no family history of tuberculosis, no evidence of tuberculous disease elsewhere. The diagnosis of tuberculosis rather than sarcoma in this case was made almost entirely upon the varying consistence of the tumor itself. In sarcoma the tumor, as a rule, is of uniform consistence, while in tuberculosis the consistence varies greatly, the epididymis being harder than the testis proper. Of course, in the later stages of tuberculosis the enlargement of the cord, early adhesion and ulceration of the skin render the diagnosis perfectly easy. The fact that in tuberculosis the epididymis is nearly always primarily involved, it is also an important aid in establishing the diagnosis.

"In teratoma, of course, the tumor, being made up of different kinds of tissue, necessarily varies much in consistence, but the larger size and involvement of the entire testis makes it easy to differentiate it from tumor of the testis."

The prognosis is usually bad, recurrence is the rule.

In regard to treatment, we quote again :

"I believe that operation consisting of complete removal of the testis and cord as high up as the internal ring, as soon as the diagnosis is made, is the only proper and rational treatment.

"In addition to this I would strongly advise a course of treatment with the mixed toxins of erysipelas and bacillus prodigiosus for two or three months after the operation as a prophylactic measure. I have thus far had the opportunity of using the toxins only in advanced recurrent round-celled sarcoma of the testis, with large retroperitoneal tumors. In some of these cases there had been marked improvement and retardation of the growth for a considerable period, but no permanent cure has resulted. In one case the patient had a long course of x ray treatment, lasting for months, without any appreciable effect in checking the disease.

"The only hope of better results lies in earlier diagnosis, and the practice of delaying for weeks while trying the effect of mercurial

ointment, so universally advocated by textbooks and surgeons is, I believe, to be strongly condemned. In the great majority of cases the diagnosis can be made in the early stages if a careful examination is made. In cases of doubt, the dangers of delay are so great that immediate exploratory operation is demanded, with castration, if section of the tumor confirms the suspicion of sarcoma."

Prevention of Subinvolution of the Uterus.

DeLee, in the *Annals of Gynecology and Pediatrics*, for June, 1906, gives the following points:

Avoid sepsis; conduct the labor with the same aseptic and antiseptic precautions that one uses in laparotomies.

Leave the case to Nature as much as possible. Avoid practices to shorten the time of normal labors.

Avoid lacerations of cervix. Repair them if deep or if they bleed. Repair the torn perineum accurately.

Leave the uterus empty of clots, membrane and placenta; therefore conduct the third stage of labor properly.

If the uterus does not decrease in size rapidly in the early puerperium, give ergot.

Do not allow the patient to lie on her back too long.

Build up an atonic general system.

These are my means of prevention and I have had only two cases of subinvolution in twelve years.

Examination of Prostitutes Not Privileged.

Before the French Society of Legal Medicine, Butté argued that no violation existed. The medical men who are attached to that particular department in question of the State are not, so far as these duties go, practicing medical men. They act simply as experts and delegates of the police just in the same way as do other inspectors. The woman who comes to him does not confide in him she comes because she must. This being so there is no secrecy about the matter and consequently no violation. It is claimed by some objectors to the police examination of prostitutes that the medical man whose duty it is to carry out the examinations can not, without violating his oath of professional secrecy, legally fulfill such duties.

From "Medico-Legal," by Dr. E. S. McKee.]

YESTERDAY AND TODAY.

DEPARTMENT EDITORS.

Dr. E. A. Babler, Surgery.

Dr. Adrian Bleyer, Medicine.

Rickets.

Our knowledge concerning the early clinical manifestation of rickets has been markedly advanced during the past few years. It must be admitted, however, that the true etiology of the disease remains an unsettled question. Concerning the disease, Dr. John Brown, in 1803, said :

“The rickets is an asthenia in which to general symptoms are added an unusual bulk of the head, especially of the fore-part, and likewise of the knees and abdomen, a flatness of the ribs and meagerness. The rickets is a disease of children, it chiefly arises from uncleanliness, want of dandling or exercise, cold either with or without moisture, food not giving sufficient nourishment, or bad air. For its cure the common asthenic indications must be employed; remedies of an opposite nature to the noxious powers that excite the disease, must be looked out for; the surface of the body must be kept clean, the perspiration should be carefully restored by the stimulus of pure air and of heat; the child should be dandled, and kept much in the open air, animal food should be administered and vegetable food withheld. Strong liquor should be allowed.”

At the present time we consider rickets a chronic disease of nutrition, the chief cause of which is improper food. We are also appreciative of the fact that hygienic influences play a very important rôle in its production. Rickets occur most frequently between the sixth and eighteenth month. It seems to be on the increase at the present time.

Very recently Siegert has contended that heredity is one of the most important etiological factors of rickets. He believes that the disease is generally transmitted through the mother. Holt and others voice the consensus of opinion when the former say : “The most important factor in the etiology of rickets is a great deficiency in fat.”

It has been found that when both fat and proteids are low, rickets is more likely to result than when only fat is deficient. The animal

experiments of Bland-Sutton clearly support the theory that essential cause of rickets is improper food, and that the element most uniformly lacking is fat. The effect of such deficiency is shown upon the whole organism, but the only constant and regular anatomical changes are in the bones. These osseous lesions very closely resemble those of chronic inflammation.

One of the most characteristic changes in the long bones is enlargement of the epiphyses, while unnatural flexibility is a very striking feature. In the flat bones we frequently find large bossæ or prominences due to a thickening of the bone. A short time ago a prominent investigator called attention to the peculiar deformity of the phalanges of the fingers which gave the bone a spindle-shape; the middle part of the bone is thickened and the region of the articulation is normal and appears as if sunken between the enlarged phalanges.

Perhaps the earliest and most constant sign of rickets is profuse perspiration about the head during sleep. A beading of the ribs—the so called rachitic rosary, is almost invariably the first appreciable change in the bones.

Among the earlier clinical manifestations may be mentioned—restlessness at night; enlargement of the joints, especially the ankle and wrist; potbelly; craniotabes; late closure of the anterior fontanel, and deformity of the head. In passing I would like to add that Dr. E. W. Saunders has mentioned the fact that laryngeal spasm may be due to rickets. When such spasm is present it is indicative of a high degree of rickets.

The diagnosis is based upon the previous history, the age of the patient, the profuse perspiration, the restlessness, the dry, offensive, white stools, the beading of the ribs, the peculiar-shaped head, the swelling about the joints and the general appearance of the little sufferer.

It is always necessary to examine carefully the character of the infant's food. I have seen breast-fed babies suffering with rickets, although it is true that the disease is most frequently observed in infants fed on proprietary foods.

Experience has taught that bow-legs and knock-knees have their origin in rickets. Their treatment will not be discussed at present.

As to the treatment of rickets, it is well to bear in mind the fact that active symptoms of the disease frequently continue only until the

tenth or twelfth, rarely longer than the eighteenth month, and that after this time the patient suffers more from the results of the disease than from the disease itself. It is thus obvious that the best results are obtained by early and efficient treatment. We know that the disease tends toward spontaneous recovery, due perhaps, to the change in the patient's diet and surroundings.

The patient should receive mainly nitrogenous food and fat, especially milk, cream, eggs, red meat and fresh fruit, Cod liver oil should be given as soon as the stomach will tolerate it. It is especially important that the patient be given plenty of pure, fresh air and sunshine.

The absence of lime in rachitic bones has led to the administration of various preparations of lime. It must be admitted, however, that they are not in any sense to be regarded as specifics. Arsenic and iron have been found of benefit in anemic patients. Atropin will relieve the profuse perspiration.

The one essential feature in the treatment is to give the patient the proper nourishment. Fresh air and sunshine, combined with tonics are very important factors.

E A B.

Hemoptysis.

There is still much to be learned concerning the occurrence of hemoptysis. That it does not always signify a tuberculous infection is granted by all, and yet this disease is the most common source of hemorrhage from the lungs. Attention has recently been called to the numerous nervous symptoms which accompany hemoptysis. Some one has found that a secondary pneumococcus infection may be etiologically related to recurrent attacks of hemorrhage in phthisical patients. It is interesting in this connection to repeat the observations of Carré in the *Medical Times*, 1878:

"Carré endeavored to ascertain whether nervous hemorrhages — that is, those which occur during the existence of neuropathic conditions, as hysteria, are the result of the neuropathy or are only accidental complications. Certain physiological and clinical facts, *e.g.*, that form of hemorrhage from the lungs which occurs in young animals after section of the vagus, or destruction of the pons, the pedunculi cerebri et cerebelli, or the medulla, are in favor of the former view. In ad-

dition it is known that section of the cervical ganglia of the sympathetic is followed by hemorrhage in the pleura and lungs. Carré also alludes to that form of lobular pneumonia which occurs, particularly in old persons, as a result of cerebral hemorrhage, and to those lung complications which accompany cerebral affections—as tubercular meningitis. Among the changes in the lungs which appear in connection with affections of the central nervous system Carré mentions hyperemia, emphysema, inflammation and apoplexy, with which are found at the same time hemorrhages into the skin and abdominal organs, hematuria and entorrhagia.

“Carré adduces notes of 22 cases going to show the connection between nervous troubles and hemorrhages from the lung. Of these, 3 were of disease of the cord, 1 multiple cerebral hemorrhage, 10 hysterical affections, 1 chorea, and 6 epilepsy. The other case was that of a girl, aged 14 years, who was attacked at the period of her first menstruation with headache, vomiting and mental disturbance. She became emaciated and suffered from epileptic onsets occurring at the periods of expected menstruation. Soon after followed cough with expectoration of blood. The latter frequently occurred simultaneously with the epileptic attacks. The case ended fatally. At the autopsy an abscess was found in the upper part of the right lung, together with edema of the brain.

“The number and variety of observations in which bleeding from the lung has been noted in connection with neurotic affections are so great as to put the accidental concurrence of these symptoms out of the question. The quantity of blood passed varies from the smallest trace tinging the sputa up to streams of pure blood. The hemorrhage is, however, never so profuse as in the hemorrhage of tubercular phthisis. It frequently coincides or alternates with other forms of bleeding—as epistaxis or hematuria, enterorrhagia or cutaneous hemorrhage. Occurring simultaneously also with pulmonary hemorrhage, he has observed certain vasomotor symptoms—turgescence of the cutaneous and cervical vessels, enlargement of varices during the hysterical crisis, alternate blanching and flushing of the face in hysteria and epilepsy, circumscribed swellings on the forehead, reddening of the skin, punctiform ecchymoses and erysipelatous conditions. Physical examination of the lungs gave negative results, excepting in one case, where the pulmonary hemorrhage was shortly followed by acute phthisis. Coinciding, as it frequently does, with hysteria, this variety of hemorrhage of the lung is more common among women than among men. There is nothing regular about its recurrence in most instances. In cases where the nervous paroxysm recurs at regular periods the pulmonary hemorrhage follows shortly after the crisis or occurs just before or alternates with the former; it seldom occurs at the same time. Carré does not include under the designation ‘nervous hemorrhage’

those vicarious bleedings which takes place on the cessation of menstruation.

"Carré explains pulmonary hemorrhage taking place under the circumstances above described, by the theory of vasomotor paralysis, which must be regarded as the result of a stage of excitation on the part of the vasomotor centers. Both the neuroses (epilepsy, chorea, hysteria) and also the cerebrospinal diseases with perceptible anatomical lesions, which have pulmonary hemorrhage as a result, lead by means of the sympathetic first to a narrowing then to an enlargement of the vessels which last permits the hemorrhage. It is for this reason that the latter follows the neuropathic paroxysm.

"The prognosis of these hemorrhages depends upon the character of the original lesion. Of themselves they never cause death. Those cases are most threatening in which multiple hemoptyses are connected with bloody sputa. Treatment depends upon the character of the original affection. Astringents are called for only in cases of profuse hemorrhage. Bloodletting is usually harmful. Baths and derivation by the skin are sometimes useful. Arsenic and quinin are chiefly to be recommended for these arouse the contractility of the capillaries directly, while they act indirectly by means of the nervous system upon the medulla and the vasomotors."

Of course, Carré was probably not familiar with the fact that three-fourths of all persons show tuberculous lesions in the lungs, and that most cases of tuberculosis of the lungs heal or remain latent without causing any clinical symptoms sufficiently marked to be recognized.

Now we do not recognize the nervous hemoptysis, although, curiously enough, the nervous symptoms described by Carré are well recognized. In a young person a hemorrhage from the lung almost invariably means tuberculous destruction of the blood vessels unless a mitral stenosis is present. But why should the blood pressure be augmented during or preceding the pulmonary hemorrhage?

Puerperal Infection.

To Semelweiss (1847) is usually given the credit of demonstrating that puerperal fever was a wound infection, although Oliver Wendell Holmes a few years before this, based on experience, declared that the poison of puerperal fever could be carried from one patient to the other and, consequently, was due to some infection. Even before this,

however, some observers had noticed the connection of infected wounds and puerperal fever.

Thus, Robert Paley (*Medical Gazette*, 1839) reported the case of a man with a gangrenous phlegmon of the scrotum and genitals, who died. Another report is as follows :

"A farmer, aged 35 years, residing a few miles from Ripon, who thought that he had caught cold, which had brought on some itching of the penis and scotum, both of which in the course of two days became very much inflamed and enlarged, on which account he sent for a surgeon, who took blood from the arm, applied fomentations and gave him purgative medicines. On the following day to his great surprise and dismay a gangrenous spot appeared on the scrotum. The blood taken exhibited no indication of inflammation. Before he left the house I saw the patient with him, and told him what in my opinion would be the result, which he could scarcely credit. I then gave him an account of my former case and, as far as lay in my power, put him on his guard. In this case the tongue exhibited the same appearances as in the former. We gave decoction of bark in the porter and applied an ale poultice, with dressings similar to those employed in the former case. The inflammation extended along the abdomen as high as the umbilicus, above which there was an eruption resembling the ecthyma cachecticum of Willan. Suppuration took place above the pubes, the whole scrotum and prepuce sloughed off and the became convalescent.

"During my attendance in the first case; one morning while the surgeon was dressing the patient the scrotum and the penis being in a gangrenous state, a messenger came to request him to go to a woman in labor, who resided about half a mile from our patient, and he obeyed the summons without loss of time. Four or five days after this, on meeting again, he said,—'you will recollect that I was sent for to a woman in labor on such a day?' I replied, 'yes, and what of that?' 'She is dead; everything seemed to be going on well until yesterday, when she was seized with a violent pain in the region of the uterus, and she died before I had time to do anything to relieve her.' In the course of two or three days, on meeting again, he said,—'It is very odd, Dr. Paley, I have lost another patient in the same unaccountable way as before,' and the next morning at our meeting he stated that he had another patient about two miles off seized in the same manner, whom he requested me to visit along with him. After seeing this patient I told him she was laboring under puerperal fever and before we left the house he was sent for to visit another woman whom he had attended in labor in the same village. I accompanied him and found her also the subject of puerperal fever. I believe that he had in all 6 cases of this disease.

"I inquired of nearly all the general practitioners in Halifax and the neighborhood if they had any cases of puerperal fever, but not one could I hear of; indeed, most of the medical men owned that they had never seen a case of it in the whole of their practice." * * *

"There is not the slightest doubt in my mind that the surgeon who was in attendance was the means of communicating something (call it what you please) from the patient laboring under the disease of the scrotum to the lying-in women, which in them produced puerperal fever." * * *.

"I pointed out these circumstances to the surgeon and at the same time advised him to go from home for two or three weeks, and have his clothes washed and fumigated; he did so, and the plague (for such it seemed) ceased. These circumstances I also mentioned to the surgeon in attendance on the case which has recently occurred in this neighborhood; I advised him to wash his hands well previous to leaving the house of his patient and not to attend any woman in labor or after her confinement without first changing his dress. Notwithstanding this precaution which I believe he rigidly observed I received a note from him a few days ago, stating that he had some unfortunate cases of puerperal fever."

Sodium Chlorid in Consumption.

The forgotten therapeutic experiments are very numerous, and it is valuable at times to glance over the history of therapeutics. The juices of vegetables were used many years ago to improve nutrition. It has been forgotten that salt is a good tonic in phthisis.

The following, from *Braithwaite's Retrospect*, 1840, will be interesting to modern students :

"Latour was first induced to give a trial to this remedy in phthisis from its reported efficacy in preventing or curing pulmonary complaints among the lower animals. A great mortality prevails amongst the apes and monkeys confined in menageries, chiefly from pulmonary complaints; and the proprietor of a menagerie found that by the free use of sea salt he was enabled to preserve these animals in health for seven or eight years, and even after a cough had manifested itself the administration of the salt was followed by a rapid cure.

"Latour relates 3 cases in the human subject in which the administration of salt appears to have been followed by the happiest results. In 1 of the cases the disease had gone so far that there was a distinct cavernous rattle with pectoriloquy, mucopurulent and purulent expectoration streaked with blood, great emaciation, hectic fever, etc., and

yet the patient made a perfect recovery at the end of a few months, the sea salt having been given uninterrupted for 60 days.

"Latour directs a particular regimen to be followed during the treatment. The aliment should consist almost exclusively of beef or mutton grilled or roasted, of good rice soups, or animal jellies. The patient should partake of these in small quantities at a time, but often and should drink a little good old wine diluted with water. Every fine day, when the sun shines and during its warmest period, the patient should take gentle exercise in the open air, and his chamber should be well aired twice or thrice a day. Flannel is recommended to be worn next the skin.

"The mode of the administration of the salt is as follow.—One-half to 1 dram of the chlorid of sodium is administered daily, either in beef-tea or in some pectoral infusion infusion, or if this should excite cough, it may be given in divided doses made up into bread pills, drinking a little beef tea afterward. It is best to commence with small doses, as the sudden introduction into the system of such a powerful stimulant, it is apt to be followed by congestion of blood in the digestive organs or lungs. A few cresses are recommended to be eaten once or twice every week, after having been well sprinkled with common salt, but no vinegar or oil is allowed with them. To relieve the pains in the chest and the burning sensations of which the patient complains, instead of the usual pectoral drinks he prescribes the following.—Carrots are to be well boiled in a moderate quantity of water, they are then to be well beaten and passed through a seive. The fluid which passes through is then mixed with fresh milk, sweetened with a small quantity of sugar and flavored with orange peel. This compound the patient drinks at his own discretion. In general, some thirst is at first caused by the administration of the sea salt and for this Latour directs a weak infusion of gentian flavored with orange peel."—*Gaz. de Med.*, 1839.

What Constitutes Pneumonia?

Andrew H. Smith (*Medical Record*) contends that a single pneumococcus lodged in an air-cell and causing there its specific irritation and consequent exudation, presents all the essentials of the disease. He declares that it matters not if 10 minutes later the organism is dislodged and swept away by the exudate, the patient even then has had a pneumonia, if only a monococcal one. If later the bronchiole terminating in the lobule invaded becomes blocked, and the further spread of the infection is prevented, the patient may escape with a unilobular pneumonia, but it will be pneumonia, nevertheless. Smith believes that such abortive attacks are very common.

BOOK REVIEWS.

Carr's Pediatrics.

The Practice of Pediatrics by Eminent Authorities. Edited by Walter Lester Carr, M.D., Consulting Physician to the French Hospital; Visiting Physician to the Infants' and Children's Hospital, New York. In one very handsome octavo volume of 1014 pages with 199 engravings and 32 full page plates in colors and monochrome. Cloth, \$6.00; leather, \$7.00; half morocco, \$8.00 net. Lea Brothers & Co., New York and Philadelphia.

While we can not say that the book fills a long-felt want, nevertheless it covers the practical side of pediatrics in a thorough manner. A great many of the illustrations are borrowed and as is usual in such cases some are rather poor. Being the work of fourteen authors it lacks the impress of a book written by one man. Paper and print are good. We hope the next edition, if there be one, the authors will polish up some, both in the more recent research work and in the style of writing.

A Non-Surgical Treatise on Diseases of the Prostate Gland and Adnexa.

By George Whitfield Overall, A.B., M.D. Rowe Publishing Co., Chicago. 1906.

So much has recently been written on the surgical treatment of prostatic disease that it is refreshing to note that some disorders may be successfully attacked by non-surgical means. He advises the use of a special instrument, which on account of its simplicity and cheapness will displace in a measure the more complicated endoscopes. The illustrations are very good. We highly commend this work to the general practitioner as well as specialist.

Golden Rules of Surgery.

Aphorisms, Observations and Reflections on the Science and Art of Surgery, Being a Guide for Surgeons and those who would become Surgeons. By A. C. Bernays, A.M., M.D. (Hdibg.), M.R.C.S. (Eng.). The C. V. Mosby Medical Book Co., St. Louis, 1906. Price, \$2.50.

A splendid compilation of surgical axioms! The personal views of the author, based on many years of active practice, makes the book only the more valuable.

The Quarterly Journal of Inebriety.

The Summer number of this journal is a particularly notable issue of this interesting and valuable publication. It has been greatly enlarged and its typographical appearance is exceptionally attractive. Two articles by the editor, Dr. T. D. Crothers, and several others by leading investigators on the subject of alcoholism, etc., will prove of interest and value to every physician. (Boston, \$2.00 a year).

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EDITORIAL COMMENT.

Patient and Prognosis.

To talk or not to talk, that is the question. Whether it is expedient to worry in silence or to relate your troubles to the patient or his family is a troublesome question. What right has the physician to relate all his fears to the patient or family? He is employed to take away cares and worries, and the friend of mankind should bury idle fears. It is really remarkable what difference there is in physicians in their attitude to the family. Some invariably express fears and doubts. The patient is on the verge of typhoid, he has a touch of pneumonia, there is danger of diphtheria; or the heart is weak, the pulse is rapid, the fever is high, etc. Others are hopeful in the extreme. A pneumonia is only a cold, even diphtheria is a tonsilitis, every appendicitis is only an attack of indigestion. Then there are others who are always silent. Patients even complain that they never know anything. Yet all these types of physicians seem to succeed and fill some corner in the practical world. We can, therefore, in no way dictate what to tell the patient. It depends on the physician and the patient. There is a difference in the way of telling it. To tell the patient that he is in grave danger may make him angry at the presumption of the physician. This is the most common result. Some take it as an insult that the practitioner should dare to tell them that they are victims of Bright's disease or tuberculosis.

Obesity.

Considerable interest is manifested in the relationship of various toxic substances and obesity. Some writers have tried to trace a connection between a deficiency of thyroid secretion and the increase in adipose tissue; at any rate, it can be asserted that hyperthyroidism causes emaciation. As is known from clinical observations, certain poisons favor the deposition of fat, especially alcohol. Arsenic and phosphorus, also, when given for a prolonged period induce obesity to a greater or less extent.

Not long ago Romme (*La Presse Med.*) cited numerous instances in which certain toxic substances either induces the formation or increases the deposition of fat. Carnot is quoted, who induced experimental obesity in animals by the injection of bacterial toxins.

The practitioner, judging from these reports, has erred in attributing obesity to high living. It is becoming only well recognized that obesity is really a disease, and that fat persons, however florid their complexion, are really sick. What the toxic substance is in individual cases future experiments will have to determine.

Certified Milk.

No sooner does some scientist discover a method to prevent disease that physicians generally push the new prophylaxis to their own financial detriment. This is especially true in the movement to procure clean, uninfected milk. Under the stimulus of various commissions dairymen are learning the doctrine of cleanliness. How astonishing are the results of the propaganda against infected milk! Already there is a sharp rivalry between different dairymen in the production of clean milk, and a dairy near Milwaukee finds that it can produce milk with only 300 bacteria in the cubic centimeter, while another dairy in New York sends milk back and forth across the Atlantic.

Milk that preserves its initial sweetness for two weeks must certainly be pure. The practical results as far as physical and chemical changes are concerned are marked, and now we trust that the prophylactic results will also become obvious. In Rochester the figures already showed some astounding differences; the mortality of infants

has been very much reduced. Sterilization and Pasteurization of milk will soon be an abandoned art. Asepsis is again replacing antisepsis.

The Radical Operation in Cancer.

The ingenuity and boldness of surgeons in performing widespread and dangerous operations for the relief of cancer must, at least, win admiration even if statistics as to their actual value are still somewhat uncertain. The Halstead operation in cancer of the breast is well known. The labors of Werthheim in carcinoma of the cervix show what radicalism may accomplish. The danger of the operation is considerable but probably the results justify taking the risks. Recently, Eisendrath has urged the thorough removal of the lymph nodes which drain areas of cancerous involvement about the lips and tongue. Truly, operations for cancer have become major operations, wherever the growth may be located.

Loco Disease.

The tendency of mankind to classify diseases of animals and to assign some definite cause is remarkably well illustrated by a disease among cattle known as "loco disease." On what ground the eating of the loco weed was given a pathogenic influence is entirely obscure, but the Western cattlemen regarded the fact as settled.

It will take a generation or more to stamp out this erroneous belief. Dr. Marshall has finally and explicitly demonstrated that the so-called loco disease is caused by parasites, and feeding the loco weed causes no symptoms. Accurate observation and experiment has again reversed preconceived notions.

Proteids and Immunity.

We have heard much lately concerning the advisability of cutting down our proteid food. Chittenden has insisted that we eat too much proteid, that the average person would feel better if he ate less meat. This, no doubt, is true, but the other side of the subject has not received all the attention that it deserves. By avoiding proteids, gout, nephritis and other disorders of metabolism are minimized, but is not the body reduced in its power to resist bacterial infections? In

tuberculosis, for example, a diet rich in proteids is known to favor health. As we have pointed out in a Leading Article, the experience of the Japanese goes far to disprove that a diet poor in proteid gives resistance to infections.

Keller recently has shown that the infant fed on cereal foods without the addition of milk is very susceptible to the infectious diseases and shows poor resistance, a fact which has been emphasized by American writers for many years. After all, the individual will eat what he likes, perhaps his system demands that very food. We have not been able to replace the natural appetite by scientific rules.

Diagnosis of Syphilis.

Now the bacteriologist is beginning to insist that the spirocheta pallida should be sought and found before a clinical diagnosis of syphilis is legitimate. It is no simple matter to condemn an individual to the syphilitic possibilities without rendering the nature of the disease indubitable, but the anxiety of the bacteriologist should not keep pace with his enthusiasm in the accuracy of recent researches. We have known microorganisms to be accepted as specific etiologic agents for years and then be hopelessly cast aside. The bacillus icteroides of Sanarelli is one of the painful examples. Then the organism is so hard to find. To exclude syphilis because the spirocheta pallida is not found would certainly be foolish.

Eclampsia and Lumbar Puncture.

Symptomatic treatment often does harm, trying to remove all morbid phenomena without attempting to control the etiologic forces may end disastrously. There can be no doubt that strenuous antipyresis does harm. This principle is forcibly illustrated by the experience of Theis (*Central. f. Gynecologie*). The intraspinal pressure is always increased in puerperal eclampsia and it occurred to Theis to try lumbar puncture in order to diminish the pressure. The results were contrary to those anticipated. When the pressure was greatest this procedure did the least good. No effect on the convulsions was observed and the mortality was high. One must conclude that the increased pressure was part of the healing process and the lessening of this force acted unfavorably.

LEADING ARTICLES.

Studies of Yellow Fever.

Extracts from the Fourth Memoir by E. E. Marchaux and P. L. Simond,
the French Commission at Rio Janerio.

The translation of these extracts by J. B. Guthrie of New Orleans, appearing in the *New Orleans Medical and Surgical Journal* for July, 1906, contains such a vast fund of information in such a condensed form that its complete reproduction is entirely necessary for an appreciation of the facts. Furthermore, their instructive value merits our closest attention. Questions dealing with the Transmission of Yellow Fever, the Virus of Yellow Fever, Immunity and Epidemiology and, lastly, Prophylaxis are largely elucidated in this memoir. Conclusions drawn will be found in italics.

I.—TRANSMISSION OF YELLOW FEVER.

Various epidemiologists, and among them Finlay in particular, have long asserted that one mosquito, the "*stegomyia fasciata*," is the agent of transmission of yellow fever. The exactness of this assertion was demonstrated first in Cuba by Reed, Carroll and Agramonte, and is amply confirmed by our own experiments on human subjects.

The stegomyia fasciata is capable of inoculating yellow fever by its bite, after it has itself been previously infected. It becomes itself infected by biting the sick during the first, second and third days of the disease.

Under favorable conditions of temperature, an interval of at least 12 days is necessary after becoming infected before it can acquire the power of infecting.

The bite of the *stegomyia fasciata* after this lapse of time is not dangerous every time. Our observations lead us to admit that, in all cases, certain special conditions of temperature are necessary in order that the bite be followed by infection.

Under certain conditions the *infection can be transmitted by the female stegomyia fasciata to her descendents by heredity*. The experiment which gave us a positive result in this direction was with the issue of the first generation from the infected parent. Judging from this experience, this *hereditary transmission does not extend farther than the first generation*.

The study of the circumstances under which our experimental cases occurred, makes us think that the hereditary transmission can only take place with eggs deposited more than 12 days after the first ingestion of virulent blood. On the other hand the mosquito which was the issue from these eggs possessed the power of infecting only after the fourteenth day of its existence in the adult form.

The experiments having for their object the infecting of mosquitoes from human subjects who were in the period of incubation of the disease were all negative. In one case, the mosquitoes had bitten the individual 3 days, and in another case 6 hours before the appearance of the first symptoms. These mosquitoes remained absolutely innocuous during their entire lives. One should conclude in consequence, that the *stegomyia fasciata* does not contract the infection in biting a human subject in the incubation period of yellow fever. This fact is of particular significance in the prophylaxis of yellow fever.

Experimental transmission has been obtained in the greater number of cases by causing the mosquito to bite the man at some time during the day. One might then suppose that the transmission occurs in the natural state at all hours of day or night. This is, however, not the case. Our numerous experiments and our observations on this subject go to show that natural transmission takes place at night, between the onset of twilight and daybreak.

We have determined experimentally that at the period of its life where it possesses the power of infecting, the *stegomyia fasciata* at liberty does not seek to bite man between 7 a.m. and 5:30 p.m. *The transmission then, is nocturnal.*

In consequence, in a place infected with yellow fever, the inhabitants can, during the day, attend with impunity to their affairs. It is with the disappearance of twilight that they must protect themselves against infectious mosquitoes.

The *stegomyia fasciata* is the mosquito most widely spread in its distribution in the yellow fever infected place, and truly has it been accused of being the special agent of transmission. We have carried on investigations as to whether other species could share with the *stegomyia* the power of transmitting yellow fever, and have found that "*culex fatigans*," "*culex confirmatus*" and "*culex taeniorhyncus*" are incapable of transmitting the virus.

These experiments are in accord with the observation that yellow fever only appears in localities where the *stegomyia fasciata* is present. Cases brought into a locality where this mosquito does not exist never give rise to secondary cases, no matter what other varieties of mosquitoes abound in the neighborhood of the sick.

It is probable that the organism of the stegomyia fasciata is the only one among all existing species of the mosquito that furnishes a favorable culture medium for the virus of yellow fever.

The fitness of the organism of this mosquito as a culture medium does not itself suffice to permit transmission. It is necessary that the duration of the life of the insect in a perfect state be sufficiently long, in order that the minimal 12 days shall elapse between the inoculation of mosquito and that biting of the nonimmune healthy individual.

These conditions are not attained among the majority of the species "culicidæ." The female deposits eggs usually during the 8 days following the first bite and dies shortly after the deposit of the eggs ("pontes"). The female *stegomyia* on the contrary is capable of surviving the first deposition of eggs, and can deposit again and again. They can, according to our observations, deposit eggs as often as 7 times successively. In the interval between the different "pontes," she draws blood from man several times. The average duration of her existence in the adult stage is from 20 to 30 days. She is then, 12 days after having bitten a patient sick with yellow fever, capable of transmitting the disease to a great number of individuals.

The faculty possessed by the female stegomyia fasciata of depositing several sets of eggs is another reason which makes it possible for her to act as the carrier of yellow fever. If this mosquito obeyed the law common to the "culicidæ," according to which the female dies after the first oviposition, yellow fever would be unknown to man.

The ingestion of living blood is indispensable to the female in order that she develop her eggs. This explains the imperative desire of the female to torment man by her bites.

The idea of mosquito transmission does not seem, on first thought, compatible with the older hypotheses regarding contagion by contact with the sick, their effects or their excretions. Our experiments, as well as those of the American

Commission, prove, however, that such contacts are absolutely free from danger. *Neither sleeping in the bed with the patient, nor the handling of this patient or his effects or his excretions, or even virulent blood, nor the handling of the cadaver or organs showing characteristic lesions, are capable of producing a contagion.*

One might say that if direct contact with the bedding, etc., or the excretions, can not transmit the disease to man, perhaps the *stegomyia fasciata* could become infected by such contact. This hypothesis is disproved by experiment. In short, *stegomyia fasciata* fed on black vomit, or with blood coming from hemorrhages, or with the sweat of patients, remain incapable of transmitting yellow fever. The following experiments show that *the stegomyia fasciata can not naturally infect herself otherwise than by sucking virulent blood while biting a human being sick with yellow fever.*

1. Healthy adult *stegomyiæ fasciatæ* kept in a jar which had contained infected mosquitoes, or kept for a long time in contact with these, never acquired infection.

2. Healthy adult *stegomyiæ fasciatæ* kept in jars in contact with fresh cadavers of infected mosquitoes, never acquired infection.

3. Larvæ of *stegomyiæ fasciatæ* issued from healthy parents reared in water where we had placed numerous fresh cadavers of infected *stegomyæ fasciatæ*, gave origin to perfectly healthy adults, which never showed infection at any period of their existence.

Based on these experiments which confirm entirely the epidemiological observations, we are in a position to affirm that, in Nature, the transmission of yellow fever occurs only through the intermediary of the *stegomyia fasciata*, and that this insect can only become infected by biting the patient.

If there exists in a focus of yellow fever, infected *stegomyiæ fasciatæ* which have never ingested virulent blood, it can only be in the case where the infection has been hereditarily transmitted to them through a mother that had bitten a human subject sick with the disease.

The perpetuation of yellow fever seems to be from this on, bound to a single cause, exactly defined—the bite of the infected *stegomyia fasciata*. Its mechanism is very simple; the ingestion by the mosquito of blood drawn from a human

subject sick with yellow fever, and the inoculation of the healthy individual by the mosquito with the virus which has been cultivated in the organism of the latter.

II.—VIRUS OF YELLOW FEVER.

Yellow fever is due to a living virus which, introduced into the tissues of the human body, there develops and multiplies.

The existence of this virus in a case of yellow fever is proven by the inoculation of a healthy nonimmune, either with the blood or fresh serum. If the blood has been drawn during the first, second or third day of the disease, this inoculation will always produce the disease.

All of our experiments go to show that the virus does not exist in the blood of the patient on the fourth day of the illness.

To get a positive effect, it is necessary to make the inoculation of blood or serum into the tissues. Applied to the abraded skin the virulent serum remains without effect.

The organism of yellow fever is of extreme smallness. In undiluted serum it passes through a Chamberlain F, but not a Chamberlain B, filter.

The experiments of the Second Commission of the Yellow Fever Institute (U. S. P. H. and M. H.) show that after the addition to the serum of an equal volume of water it can even pass through the Chamberlain B filter.

It is without doubt owing to its size that it has remained invisible up to the present time. *This organism is exceedingly delicate.* It is destroyed by heating for 5 minutes at 55°C. The serum containing it, preserved in contact with the air lost its virulence in 48 hours between 24 and 30°C. In defibrinated blood, preserved at the same temperatures, screened from the air by a layer of oil of vasaline, the virus remained still alive after 5 days. In 8 days it had lost all of its activity.

The virus of yellow fever can not be cultivated in any known medium, nor by any known procedure. The only method of culture which gave us a result, consisted in making healthy stegomyiæ absorb the bodies of virulent stegomyiæ triturated in a fresh state. Still, we have only been able to obtain this culture "in vivo" for the first passage.

One encounters in the stegomyia fasciata different visible

parasites—*nosema stegomyiæ*, gregarines, yeasts. These parasites have no relationship to yellow fever.

III.—IMMUNITY AND EPIDEMIOLOGY.

The incubation period is from 4 to 6 days. Some experimental cases and observations, however, prove that occasionally it can be longer and attain even 13 days.

Previous inoculations of serum heated during 5 minutes at 55°C., or of defibrinated blood kept 8 days under oil of vasaline, confers a relative immunity against a subsequent virulent injection. Serum from a case of yellow fever on the eighth day of the disease already possesses preventive qualities. The serum from convalescents possesses not only preventive qualities, but may have a certain curative power.

The first attack usually confers immunity. This immunity, in most cases complete, can however, according to the individual characteristics, become attenuated after the lapse of a variable period of time and permit of a second attack, but this is not the rule. Second attacks are usually benign. They can be, nevertheless, at times, as grave as an original attack.

No race can enjoy a natural immunity to yellow fever. The black race, contrary to a widespread opinion, is as susceptible to it as the white race. Differences in susceptibility, which are revealed in different individuals of the same race, or of different races, seem to be due to the different degrees of attraction, more or less marked, that the odor of the skin of each individual exercises on the *stegomyia fasciata*.

The human species is at all ages susceptible to yellow fever. At the same time the disease does not behave in the same manner among children as among adults.

Among young children it exists in a form so benign that it remains almost always undiagnosed, and if recognized at all, it is only late in the course of the disease, in the exceptionable cases which present black vomit and death.

Contrary to an accredited opinion, children living in a place where yellow fever is epidemic have generally had the disease at a very early period of their existence, in a "forme fruste," which is the rule among infants and the exception among adults.

Since natives of an endemic focus of yellow fever have all been immunized by an infantile attack, it follows that in adult life very few are affected during an outbreak. On the

contrary, strangers of any age furnish the victims to the disease. These are the ones that feed the epidemics. During the intervals where it does not rage as an epidemic, yellow fever is perpetuated by infantile "fruste" cases, which succeed each other without appreciably increasing the mortality and without being diagnosticated. Endemicity is thus established in a region where the *stegomyia fasciata* exists permanently in an active state, when yellow fever is once introduced.

The regions where climatic conditions do not permit the *stegomyia fasciata* to exist all the year, the introduction of persons infected with yellow fever at a time when these mosquitoes are multiplying, determines the formation of an accidental focus. The epidemic, generally severe because it encounters a nonimmune population, extinguishes itself completely when the *stegomyia fasciata* disappears. It reproduces itself at new periods favorable to the multiplication of this mosquito only if new human cases of yellow fever are again brought in.

If in a place where the stegomyia fasciata exists the year around yellow fever appears without being imported from without, and the native adults are spared, while the strangers suffer, one can be certain that this place is an epidemic focus of long-standing activity.

IV.—PROPHYLAXIS.

The defense against yellow fever follows logically from the knowledge of its transmission. It is to be remembered:

1. *That yellow fever can assume an infectious character only in the regions where the stegomyia fasciata exists.*

2. *That in regions where this species is absent, it can accidentally be brought in by persons or by ships.*

3. *That the stegomyia fasciata can live and multiply under other conditions of climate than its own; and that, thanks to its domestic habits, it can seek shelter temporarily, against the adverse nocturnal conditions of temperature in the dwellings of man.*

4. *That on board ships, to which it has easy access, it can multiply and exist during a long voyage, owing to defects in the construction of cabins and sleeping quarters.*

Prophylaxis differs according as it is necessary to stamp out yellow fever in a place where it has already been introduced, or to protect a territory against its introduction.

So far as the mosquito is concerned we should carry out its extinction in all the regions by means directed against its larvæ. This is all the more important if we remember that among these may be some that have been hereditarily infected. Stegomyia fasciata adults should be destroyed at the same time in all quarters where cases are found. Finally, houses should be closed to the mosquito by appropriate methods, so that the inhabitants will be shielded from the bites of mosquitoes, especially at night.

So far as the patient is concerned, we should exercise vigilance, so that any case, doubtful or suspicious, shall be immediately known from the beginning. *Every suspicious case as well as every positive case should be isolated; not from man, but from mosquitoes.*

For the protection of noninfected localities where the stegomyia fasciata exists it is necessary to direct measures against mosquitoes on the one hand and against new arrivals on the other, at all points in the locality, and at all times, we should carry out systematically, the destruction of the species—stegomyia fasciata. The disappearance or even the diminution of these mosquitoes is the only true safeguard against the appearance of an epidemic. *Strangers arriving from a yellow fever-infected point, whether or not put into quarantine, should be observed daily up to the thirteenth day after the day of departure from the infected place. At the least febrile symptom occurring during this period, they should be immediately placed where they can not be reached by the stegomyia fasciata.*

Ships coming from an endemic focus of yellow fever should be minutely inspected to determine the presence of the stegomyia fasciata on board. If they are free from this mosquito, no danger can come from their communication with land, the debarkation of their passengers or the discharge of their merchandise. If it is found that they carry stegomyia fasciata they should be held until holes, berths, cabins and other places have been disinfected with some asphyxiating gas, passengers being removed before this is done.

Each time the ship has had, in the course of a voyage, a suspicious case, the same thorough examination should be made for the stegomyia on board. Only such passengers should be discharged as are absolutely well and then on condition of agreeing to medical supervision as indicated above.

Quarantine measures are no guarantee against yellow fever. They present, beside other defects, the grave one of inspiring a sense of false security.

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The above communication contains such a vast number of facts, so much that is new, that we can not help expressing our astonishment at their acquisition by this single Commission.

It seems to us that much which is here set down as incontrovertible yet needs the support of further clinical as well as laboratory investigation before we will be warranted in assuming that we have reached absolute truths.

Has it been clearly demonstrated, for example, that "the ingestion of living human blood is indispensable to the female in order that she develop her eggs;" is it not possible that laboratory conditions have not perhaps with sufficient accuracy reproduced those which surround this insect in its native state? and must we conclude that the stegomyia can not exist in a region devoid of all other animal life? These are perhaps possibilities but we question whether they have been proven.

Again, "if this mosquito obeys the law common to culicidæ, according to which the female dies after the first oviposition, yellow fever would be unknown to man,"—does such a law render imperative the deduction that one oviposition of larvæ carrying by heredity the living virus of yellow fever could not themselves become infected by biting a yellow fever patient—is this deduction a proven fact? it is not quoted! While, on the other hand, the life of the stegomyia (20 to 30 days) would permit of such a possibility, even though it requires 14 days for maturity to infect by heredity and 12 more days to infect by direct inoculation from a human being! Why has not the experimental work illustrating that a new infection of an hereditarily infected mosquito is impossible—then been given?

The experiments of immunization against yellow fever impress one as being quite superficial from which, however, momentous conclusions are drawn; much work remains to be done in this one field. Again, whether it is true or not that, "No race can enjoy a natural immunity to yellow fever," although most probably true, could not have been experimentally

determined by this Commission. We feel that the incidence of the disease in infants still requires elucidation.

Under prophylaxis, we regret that instructions were not more specifically outlined for the destruction of larvæ and adult stegomyiæ fasciataë, the subject of quarantine measures is likewise insufficiently dealt with.

Let us hurry to add after such a free criticism that the skill and great patient and perseverance that such a work as this certainly demanded reflects a high credit upon the Commission, who have rendered, together with our American Commission a monumental service to mankind.

A. S. BLEYER, M.D., St. Louis.

[Kingshighway and Delmar Bou'evard].

Hernia of the Bladder.

A careful review of the literature indicates that Bartolin's contention that the first recorded case of hernia of the bladder was tabulated in 1520 by Sala, is perhaps erroneous, since it has been established that Giovanni Domenico Sala lived in 1579 to 1644. It would seem quite probable, therefore, that the first recorded case was tabulated in 1620 instead of 1520. Verdier is of the opinion that the first person to record a case of hernia of the bladder was Felix Plater of Basle, who lived from 1536 to 1614. Verdier was the first to present a classical account of the affection.

FREQUENCY.

Without doubt, hernia of the bladder occurs more frequently than is commonly believed. Up to 1890 there were only 38 cases tabulated in the literature. During the ten years immediately following, more than 150 cases were reported. In 1901 Alessendri was able to collect 223 cases. A fairly careful perusal of the literature from 1901 to the present time has enabled me to increase Alessandri's collection up to 247.

Curtis is of the opinion that hernia of the bladder occurs in 1 percent of cases of inguinal hernia, while Moynihan contends that it occurs in about 1 percent of all cases of hernia. Moynihan says :

"The rarity of recorded examples is due, it would seem, rather to a want of pertinent observation than to the infrequent existence of

cases. Lotheissen contends that the more exact the stripping of the sac, quite up to the deep epigastric artery, the more likely will cystocele, especially in its earlier stages, be discovered."

It is a fact that the bladder is found far more frequently in an inguinal than in a femoral hernia. There is nothing surprising in this finding. In some of the earlier cases the sac contained the entire bladder; in most of the earlier cases contained a large amount of the bladder; it is more than probable that in many of the small or medium sized herniæ of the bladder the true nature of the affection has been overlooked. In passing, I may add that in by far the greater proportion of the cases of hernia of the bladder the patient is an adult. Moynihan thinks that hernia of the bladder is, broadly speaking, a disease of the aged and enfeebled.

VARIETIES OF CYSTOCELE.

Jaboulay and Villard have described three varieties of cystocele: 1, intraperitoneal; 2, paraperitoneal, and 3, extraperitoneal.

In the intraperitoneal variety there is a complete hernial sac occupying the position of the oblique inguinal hernia; the neck of the sac, that is to say, is external to the deep epigastric artery. Into this sac a portion of the bladder *completely covered by peritoneum* descends. It is evident that the portion of the bladder affected in the hernia is the upper part of the posterior surface. It is always *secondary* in origin. It is fairly rare.

In the paraperitoneal cystocele there is a hernial sac either of the oblique or direct form. On the inner side of the sac lies the bladder in such a manner that the peritoneum of the inner wall of the sac is the serous covering of the outer wall of the bladder. The rest of the bladder outside the abdomen has no peritoneal covering. The viscera, therefore, is outside the sac; it is not a part of the contents of the hernia.

Sjövall asserts that 40 percent of the cases of hernia of the bladder are paraperitoneal. Lotheissen places the figure at 24 percent, while Moynihan feels that it is more than 40 percent. It is by far the most frequent variety. In more than half of these cases the bladder is thickly covered with fat.

The extraperitoneal cystocele is a rare form. Brunner was able to collect only 6 cases; 4 were inguinal and 2 were femoral; the largest

tumor was "of the size of an orange." It is worthy of mention that all extraperitoneal herniæ are of the direct variety.

Hemes has called attention to two other forms of hernia of the bladder. In the first of these the bladder does not lie within the inguinal canal; but as a result of the stripping up of the sac up to the internal ring and of traction upon the sac before the transfixion, a small tongue shaped slip of the viscus is dragged down below the level of the internal abdominal ring. In such a condition the bladder may readily be pierced by the needle or included in the ligature. In the second form of operative cystocele described by Hemes the condition is due to an ineffectual attempt at a radical cure.

ETIOLOGY OF CYSTOCELE.

What causes a hernia of the bladder? Mery was of the opinion that the hernia was congenital in origin. Armonds, Emmerta, and others concur in this opinion. Englisch studied the subject very carefully and concluded that an abnormal condition of the ligamentæ vesico ombilicalis lateralis was possibly responsible for the initial fault. Berger has said that "the predisposing causes of vesical hernia are those which lead to an increase in the capacity of the bladder and determine a thinning of its walls." Moynihan says :

"To sum up the causes leading to the development of a hernia of the bladder we may state the matter thus: There must be a condition of—1, *permanent vesical distention*; 2, of *motor insufficiency* of the bladder; 3, of *laxity of the abdominal wall*, and 4, of increase of intra-abdominal pressure, the 'effort' upon which Nélaton in 1857 was the first to lay definite emphasis.

"Primary cystocele results from two conditions: 1, in which the bladder from over-distention, associated with muscular atony, laxity of the abdominal wall, and 'effort,' is forced into the canal, and 2, in which the traction or fixation of a lipoma causes the descent of the organ.

"Secondary cystocele results from—1, the traction of a pre-existing hernia, and 2, the protrusion of the peritoneally-clad portion of a lax, distended bladder into a hernial sac of old standing."

SYMPTOMS.

It is a well known fact that a patient may have a hernia of the bladder without presenting symptoms. In fact, in by far the greater proportion of the reported cases the medical attendant did not recog-

nize the true condition until the viscus was accidentally cut into. Less than 5 percent of the tabulated cases were correctly diagnosed before operation. The tumor is generally rounded, smooth, soft and fluctuating. The fluid is capable of reduction under pressure. The patient may assume various postures to facilitate the return of the urine. A striking fact is the rapid and considerable alteration that may occur in the size of the hernia. Within a couple of hours it may alter from the size of a lemon to that of an infant's head. The tumor is dull on percussion, and may be irreducible. Micturition is usually performed in two stages. The urine in the pelvic portion of the bladder is first evacuated, after which the patient applies pressure to the part and forces the urine contained in the tumor into the bladder and then urinates. Mere pressure upon the tumor produces a desire to micturate. In fact, pressure, especially if strong and persistent, may cause the involuntary passage of a few drops of urine per urethra. Guterbock has called attention to the value of rectal examination in these cases. He has found that in these cases a rectal examination shows absence of the normal bulging of a distended bladder toward the rectum.

It is not uncommon for a hernia of the bladder to be mistaken for a hydrocele. It must be remembered that a cystocele is opaque, reducible, is fluid, and that pressure causes a desire to urinate. It is also well to bear in mind the fact that micturition is performed in two stages.

The presence of fluid in a hernial sac may cause an error in the diagnosis. The findings revealed by operation will usually suffice to clear up the diagnosis. What has been said concerning inguinal hernia is equally true concerning crural cystocele.

In 1903 Curtis reported a case of cystocele. The patient was a boy, aged $2\frac{1}{2}$ years; he had an inguinal hernia. The bladder was unexpectedly found at operation. Curtis refers to 4 additional cases which had not been reported.

Collier's patient was a boy, aged 2 years. The right inguinal canal contained a loop of small intestine and a paraperitoneal hernia of the bladder, while the cecum and appendix were found in the left inguinal hernia. The patient was operated upon twice. He recovered.

Ferguson's patient was operated upon for an irreducible inguinal hernia. At the operation the bladder was mistaken for a cyst of the cord; it was punctured. The patient recovered. Ferguson refers to another case occurring in the practice of a friend.

In Pleth's case the sac contained the cecum, the appendix and a portion of the bladder. The bladder was recognized and hence, not harmed. The patient recovered.

Sheppard has tabulated 4 cases of vesical hernia; all were inguinal. One was opened before being recognized. Three were recognized. All recovered.

Hamie's patient was suffering from a strangulated inguinal hernia. A hydrocele was also present. At the operation the bladder was incised. The patient recovered.

In 1904 Karewski recorded 6 cases; 3 were femoral and 3 were inguinal. All save one were recognized before operation. Five were operated upon, and all recovered.

Roswell Park operated upon 2 cases. Both were of the inguinal variety; both occurred in men, and both recovered. Neither was recognized before operation.

Last year Barham reported a very interesting case. The patient was suffering from a strangulated inguinal hernia. At operation the small intestine was found strangulated. The bladder was not recognized and was incised. The patient recovered although Barham drained the bladder for a week.

In a recent issue of the *New York Medical Journal* Kilvin reports 3 cases of hernia of the bladder. In 1 the clinical diagnosis was inguinal hernia of the bladder; in 2 the true condition was not appreciated until the viscus had been exposed in the canal; in both of the latter cases the organ was recognized before being injured. All were of the inguinal variety, and all recovered.

There is, I think, no reason why the presence of a portion of the bladder in a hernial sac should in any way increase the dangers of the usual operation. Personally, I have never had any trouble after suturing the bladder. When it has been cut accidentally or otherwise, simple suture of the muscular and serous surfaces is all that is necessary. I have frequently seen the bladder cut into, but prompt suture was always followed by perfect results.

We may conclude that cystocele occurs more frequently than is commonly believed, and that most of the cases are not recognized until at the time of operation. Many cases are never recognized.

EEMUND A. BABLER, M.D., St. Louis.

Dietetics.

(Continued from page 266, November Number.)

R. T. Williamson (*Practitioner*, April, 1906) has the important subject of "Dietetic Treatment of Diabetes Mellitus." He credits John Rollo, an English medical man, for the institution of dietary treatment in diabetes in 1797. The writer believes, that aside from dietary measures, the sugar may be reduced by drugs, notably aspirin and salicylic acid. It is wise to individualize and to be familiar with the weight and idiosyncrasies of your patient; also to know if he is the subject of other diseases—as phthisis, nephritis, cardiac affections, etc.

One must know if the diacetic acid reaction (claret coloration on the addition of a solution of perchlorid of iron) is present. If it is, one is dealing with a most severe form of diabetes. In this connection it is well to remember that this reaction may be present if the patient is taking a salicylate or antipyrin.

The patient should be placed on a diet containing chiefly nitrogenous and fatty food, with as little carbohydrate as possible. No sugar or sweet food should be allowed. Articles of diet containing much starch should be forbidden and only green vegetables containing a very small quantity of carbohydrates allowed.

Should the urine become free from sugar for a few days the case belongs to the mildest form of the disease. A small amount of white bread may then be added to the diet, and this amount gradually increased until the sugar reappears in the urine.

When the sugar excretion can be reduced to a few grams daily by a strict diet, but shows no signs of further diminution Naunyn has pointed out the value of a "fast day."

For 24 hours the patient should take no food except tea and bouillon, or vegetables, tea, coffee, cream and bouillon. In these cases, after the fast day, the sugar often disappears entirely.

In all form of diabetes mellitus, sugar and articles of diet containing much sugar should be forbidden for the rest of the patient's life.

Williamson thinks the caloric value of the food given should be known, the caloric value of the sugar excreted known, and then an estimate made of the difference, which should be 2500 calories daily (the amount required by a healthy man).

Williamson says no article of diet should be permitted by the medical man unless he knows approximately its chemical composition.

A rigid diet sheet is given and an appendix showing how to make several bread substitutes, etc.

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Arthur P. Luff contributes an article on "Diet in Gout, Rheumatism and Allied Conditions."

Great changes in diet should not be made abruptly. Pawlow's researches show a habit of digesting easily any particular kind of food is acquired by the stomach, which secretes a gastric juice appropriate to it. If the change is too abrupt the patient will probably suffer.

Concerning animal food, Luff says the quantity of meat, and especially of red meat, must be restricted in those cases in which the kidneys are imperfectly performing their elementary functions, as evidenced by a pale urine, of low specific gravity and deficient in urea and purin bases.

Excepting the potato, those vegetables which grow above ground are preferable to root vegetables. However, in dieting the gouty no hard and fast rules can be laid down.

Simplicity of meals must be observed and moderation of both eating and drinking is essential.

If the gouty symptoms are due to over-production of toxic material from faulty intestinal and hepatic metabolism and, if at the same time, the kidneys are sound then the diet which mainly consists of animal food is indicated; in extreme cases of this class even the so-called "Salisbury diet" may be useful.

If, on the other hand, the gouty symptoms are due to defective elimination on account of diseased kidneys, then a diet which is more vegetarian is best.

In gastric hyperacidity starchy articles of food should be limited. Bread may advantageously be given as crisp toast, or in the form of rusks or in the zwieback, or twice baked form, as in these conditions it requires thorough mastication and insalivation.

Luff thinks that potatoes are best given in the crisp form which requires mastication and insalivation.

Any fruit which, from experience, is known to agree with the indi-

vidual may be taken by gouty subjects. Apples and oranges generally agree best.

In acute gout, for the first day or two the patient should be restricted to a milk diet—bread and milk. Free drinking of water is recommended. The milk diet is to be continued until the acute inflammation is subsiding.

In rheumatic fever a milk diet only should be given during the height of the attack; to each pint of milk 10 to 15 grains of common salt may with advantage be added. Beef tea and all meat extracts should be avoided. Alcohol in any form is, as a rule, unnecessary. Cool drinks, as "Imperial drink," should be given. Tamarind tea is also excellent.

Moderation should be the keynote of all prone to the various forms of chronic rheumatism.

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[2144 S. GRAND AV.]

(To be Concluded.)

Multilocular Cystoma of the Pancreas.

Our knowledge concerning pancreatic cysts has changed quite materially during the 43 years that have elapsed since Virchow described two separate varieties of pancreatic cysts under the term *ranula pancreatica*. Jordan Lloyd deserves credit for having pointed out the fact that a cyst of the pancreas may be due to trauma. Bozeman, Fitz, Senn, Gussenbauer and Robson—especially Robson, have done much to advance our knowledge concerning pancreatic lesions in general. It is customary to classify cysts of the pancreas as follows:—1, retention cysts; 2, proliferation cysts; 3, hydatid disease; 4, congenital cystic disease; 5, hemorrhagic cysts; and 6, pseudocysts.

Proliferation cysts of the pancreas are of two varieties:—cystic adenoma, and 2, cystic epithelioma. Perhaps not more than 16 or 17 cases of multilocular cystoma of the pancreas have been recorded. Half of these 16 cases have been tabulated during the past 6 years. In 1900 Fitz was able to collect but 7 cases; he reported a very interesting case occurring in his own practice. Perhaps the first case of multilocular cystoma of the pancreas to be reported was tabulated by Bozeman of New York. The patient was a woman; the tumor weighed

20 pounds and contained a dark brown liquid. The second case was reported by Riedel; the patient was a woman, aged 45 years; the tumor had been present in the upper abdomen for 9 years; it contained 10 liters of brownish fluid; upon examination it was found that the cyst had an adenoid projection from the wall, several globular spaces communicating directly with the interior, the spaces being lined with cylindrical epithelium; some of the cysts had papillary elevations, as in ovarian cystoma.

Selzer's patient died from mammary carcinoma; at the autopsy a multilocular cystoma of the pancreas was found; the growth was the size of a man's fist. Kuhuast's patient was a man, aged 51 years. Martin removed a pancreatic cyst from a woman, aged 50 years; the patient had observed the growth for 21 years; the tumor contained 15 liters of thick brown fluid; a portion of the wall of the cyst contained a large number of cysts of various sizes, all were lined with cylindrical epithelium; no pancreatic duct was found.

Gussenbauer's patient was a woman, aged 28 years; she had noticed the presence of the growth for about $2\frac{1}{2}$ years; the cyst was about the size of a fist when first observed; Gussenbauer incised and drained it; the patient died from phthisis, and at autopsy it was found that the growth was a multilocular cyst of the pancreas; the cyst was lined with cylindrical epithelium; the pancreatic duct was patent from the duodenum to the cyst.

In Thiroloix and Pasquier's patient the entire pancreas was transformed into masses of cysts—the largest was the size of a hen's egg; the duct of Weisung was patent. Poncent extirpated a growth from the pancreas of a woman, aged 26 years; the tumor had been present for 6 years; upon examination the growth, which was about the size of a man's head, was found to be composed of multiple cysts, the cysts were lined with cylindrical epithelium.

Fitz's patient was a man, aged 36 years; 4 months previous to consulting Fitz he suffered with a severe, dull, constant pain in the left lumbar region and extending into the dorsal region; the pain was worse when the patient assumed a recumbent posture; there was less discomfort, however, when he lay upon his back. During the 2 months immediately preceding his visit to Fitz the pain practically disappeared, but the patient had noticed a swelling in the left hypochondrium; the swelling had gradually increased in size. A peculiar feature was the

excessive appetite and thirst. Upon operation, Richardson found a tumor in the lesser omental cavity; a large quantity of reddish brown fluid was removed, after which the growth was extirpated. Examination of the growth revealed the fact that it was a multilocular cystoma of the pancreas. From the histological findings, Fitz was led to believe that the tumor was essentially a multilocular cystoma, but on the border line between a proliferating cystoma, a cystodermic and a cystomatous carcinoma. The patient recovered.

Fitz called attention to the fact that multilocular cystomas of the pancreas were most frequent in women; that, as a rule, the growth existed for a number of years without much change or proving a cause of disturbance; that a rapid increase in size was usually due to the formation of a single large cyst. Fitz was suspicious that his case was malignant. I might mention the fact that in 1881 Hartmann reported a case of cystic epithelioma of the pancreas.

During the past few years Malcolm, Adlercrentz, Dunning, and Lazarus have presented very interesting cases. Adlercrentz removed a multilocular cystoma of the pancreas from a woman, aged 28 years; the cyst was about the size of a man's fist and consisted of three large and numerous small cysts; one of the cysts was punctured and found to contain a brownish, thick liquid.

Dunning's patient was a female, aged 25 years; the tumor had been present $2\frac{1}{2}$ years; the patient had suffered frequent attacks of very severe pain during this period; at times it was found necessary to administer morphin. Dunning made a diagnosis of hydronephrosis, but at the operation the tumor, which was as large as an adult's head, was found to be connected with the pancreas. When the growth had been extirpated it was found to be a multilocular cyst—adenoma of the pancreas. From the inner surface of the large cyst were numerous—40 or 50, small cysts projecting into and filling the main cyst cavity. The cysts were filled with a slightly turbid, tenaceous mucoid material consisting of glandular debris, epithelial cells and calcium oxallate crystals.

Malcolm has operated upon 2 cases. Watkins-Pitchford, and Chilton have presented similar cases. In Malcolm's last case the patient was a female, aged 50 years, who had felt very sick about 6 months before consulting Malcolm. The sensation as if something had moved in her abdomen, soon passed off and she "forgot" about

the "lump," but she began to lose flesh and strength shortly thereafter. One month before consulting Malcolm she fainted and was very pale for the following week. The feces were "like ink" for 3 days and then resumed their natural color. Malcolm says: "Apparently there had been a hemorrhage into the upper part of the alimentary tract. The patient again became conscious of something abnormal in her abdomen. * * * Her general condition was good, the urine was normal and the bowels acted well without medicine. There was an oval, hard tumor in the left side of the upper abdomen measuring about 4 inches in its lateral diameter and rather more from above downward. It had considerable mobility exactly resembling that of a large loose kidney, the greatest fixity being toward the spine. The percussion note over the most prominent parts was dull before and behind, the area of dulness varying with the position of the tumor."

Malcolm made a diagnosis of "malignant growth in a loose kidney, the capsule of which had not yet ruptured," but at operation the tumor was found to be a pancreatic growth. Malcolm says: "I cut into the pancreas so as to get the whole growth away. The pancreatic tissue bled freely but it showed no friability and ligatures applied to it held well. A large vein, quite a third of an inch in diameter, was cut across and there was a profuse hemorrhage for a moment. When the pancreas was released it immediately turned round so that its anterior aspect presented unharmed. Evidently the new growth had arisen from the posterior surface of the gland and rather from the upper part of it." The patient recovered. Microscopical examination of the growth showed it to be a multilocular cystoma of the pancreas.

Relative to the diagnosis, Malcolm says: "The diagnosis of these remarkable multilocular cysts of the pancreas is very difficult. The fact of their being removable involves the presence of sufficient pancreatic tissue to prevent symptoms arising from destruction of the gland. In both my cases, and in the others to which I have referred, the tumors were mistaken for renal growths and this error may be hardly avoidable. When the neoplasm has been more median in position it has frequently been mistaken for an ovarian cystoma, and I think that Fitz's case is the only one that was diagnosed as pancreatic before being operated upon."

In reviewing the literature I have been impressed with the above facts. I have also observed that these growths not only can be, but

should be, extirpated rather than merely drained. It is a fact that the retention cysts, plain and simple, are best treated by incision and drainage.

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[617 Euclid Av.]

Disorders of Locomotion in Infants.

From my observations, it seems evident that too little stress has been laid on disorders of the locomotory apparatus in infancy. While it is true that many of these disorders depend on some nutritive disturbance, from which the infant will be relieved in time; it is also a fact, that many serious nervous or cerebral diseases are entirely overlooked. It is humiliating to find that a cerebral diplegia or spastic spinal paralysis is overlooked, and the mother repeatedly told that the child will grow out of the disorder.

First, it is well to bear in mind at what age certain necessary acts show themselves. Babies try to grasp at objects as early as the fourth month. The head should be held erect as early as the third month, many infants at one month already show a considerable rigidity of the neck muscles on attempting to hold up the head.

A healthy child should be able to sit up at 7 months, many of them sit up at 6 months, some as early as 5 months. Attempts at standing, when the infant is supported under the arms are often made at 6 or 7 months. With a little support standing should be possible at 9 months. Walking, unassisted, is much more irregular, varying from 10 to 17 months.

If any of these voluntary acts are imperfect after the ages mentioned, a careful inquiry into the nutritive history should be made. Attacks of indigestion, gastroenteric infection, or colitis are sure to interfere with nutrition and therefore delay the acts mentioned. Rickets is well known to produce deficient bony or muscular development, and the baby is backward in muscular acts.

But in all these disorders, while there is a weakness or backwardness, some of the acts are almost perfect. Thus, holding up the head is rarely absent after the seventh month in rickets. Attempts at grasping objects and carrying them to the mouth will be found in all infants, even those who are suffering from severe malnutrition.

Whenever an infant, after the sixth month, does not hold up its

head and makes no attempt to grasp objects, some serious cerebral or spinal disease should be expected.

The symptoms of cerebral palsy are manifest by this weakness and some rigidity of the muscles. The reflexes are very much exaggerated. There are quite a number of types of this palsy. It is, strictly speaking, not always necessary to locate the cerebral or spinal lesion, since the therapy is not benefited by this knowledge.

The Antiquity of Medicine.

To the passion for exactness in medical practice, bred of the desire to rescue the science from the doubt of centuries, must be attributed the current passion for medical history. It is well appreciated that thorough knowledge can only come with an understanding from its beginning of any fact, and great energy is now displayed in tracing the incidents and beliefs of medicine to their source. The student who undertakes this line of investigation is surprised at the wealth of information opened to his grasp, and his wonder grows as the intimate relation of medical thought with human life is revealed in the dim mist of antiquity. That this most agreeable means of diversion has taken a firm hold upon the profession is revealed in the rapid increase of historical literature. In this country the publication of a special journal of elaborate and ornate form, the *Medical Library and Historical Journal*, has been undertaken, and this in 3 years of existence has had ready acceptance and encouragement.

Modern medical knowledge is too generally regarded as of recent growth. The various branches of medical investigation are rarely traced to an origin of more than a century ago. But it has been found that the ancients possessed certain analogous information, which makes comparison of the two civilizations inevitable.

Now comes the voice of Egypt, and back we go, not hundreds, but thousands of years, to a period of grandeur and culture, not unreasonably regarded as even greater than our own. It appears that the work of a physician was mentioned as far back as the Fifth Dynasty, not less than 3000 before Christ, and in the Ebers Papyrus (about 1550 before Christ) are many interesting discussions of the methods of healing.

An anonymous writer in *The Sphinx*, a periodical published at

Cairo, for a copy of which the *Annals* is indebted to Dr. Cyrus S. Merrill, reviews this interesting topic, and cites some of the facts of the "Land of Prehistory," which seems "to show that in Medical Art and Sciences Egypt was, in the very earliest times, a leader and a guide." And he carries his investigations still further along the evolutionary line by citing Pliny's description of the medical practice of animals, as that "The Hippopotamus finding himself plethoric goes out on the banks of the Nile and there searches out for a sharp pointed reed which he runs into a vein in his leg, and having thus got rid of a sufficient quantity of blood closes the wound with clay." Furthermore, this writer recalls that "The use of emetics is said to have been learned from the dog, of hellebore from the goat, and Aristotle, among other writers, says that stags healed their wounds by the use of Dittany." And there are other evidences of a more scientific practice of medicine in prehistoric times, for among the ruins of the Swiss Lake Dwellings we find cakes made of poppy seeds, showing that opium was known and used as drug by those who dwelt there, and it is now generally known that the operation of trephining was frequently performed in the stone age, sometimes for the cure of disease, sometimes doubtless as a religious rite, rendering those who underwent it proof against evil spirits, sometimes, too, to allow the spirit to escape from the body.

"The first practitioners of scientific medicine, and especially those in Egypt, were priests, and even Egyptian kings approved of the examination of the dead. A College of Physicians was in existence in Egypt before Christ, its members were paid by the public and the nature and extent of their practice was regulated by law. They belonged to the sacerdotal caste and women were allowed to practice. As state servants they treated the poor gratuitously but saw them only in consultation in their rooms. They were allowed to take fees from the rich whom they attended. Medical science had attained so high a development in those days that its art was specialized and physicians were allowed to practice only their own branch of medicine.

"Material is still extant on which to build in Egypt and in India a system of medicine existing thousands of years ago. Prescriptions have been handed down to us as they were used for diseases of the eye and for bloody flux. The mention of hospitals is rare in ancient records and it is difficult to say what place they occupied in remote ages. We must hesitate to accept the statement of Pinel that asylums

existed in the temples of Saturn, but it seem clear that there were medical schools in connection with temples from the dawn of civilization, that priests were the depositaries of medical knowledge, and that the sick and infirm went for advice to the temples or slept beneath some healing shrine. The Ebers Papyrus, composed about 1550-1547 B.C., more complete in its information than any other, says that the ancient Greeks as well as the Egyptians were in the habit of laying their sick in the temples. This in Egypt was done especially in the temples of Serapis, in the renowned Serapeum of Canopus near Alexandria, and at Memphis. It records that when Alexander was sick several of his friends slept in the Serapeum at Alexandria that they might learn from the Deity whether to take him to the temple or not—and the voice of the God said No. Ancient inscriptions and Papyri are almost silent on the subject, but there seems little doubt that there was at least a clinique at Heliopolis situated, the Ebers Papyrus says, in buidings called 'The Great Hall of Heliopolis,' and it is known that there was also a medical faculty at Sais. Seth and Horus, brothers who wounded each other in battle, were taken to Heliopolis and Isis was the healing Goddess in their restoration. The chief priest, called Urme, was probably the head of the faculty, and one of them, named Chey (Papyrus Ebers), was the owner of a renowned eye ointment. The chief priest of Sais, called Ursuanen, the great or head doctor, was President of the Medical Faculty.

"Schools were connected with most temples, and cliniques which probably passed over to the Arabs who, like the Egyptians, erected schools and hospitals in connection with the mosques, with many. Ancient Egyptian shrines, which were certainly seats of medical knowledge where the sick went for advice and which appears to have served as hospitals have been excavated. The great temple of Dendara contains a series of rooms which have been examined. Over one door stand the word 'Laboratory,' over another 'Birth House,' and it is hard to say whether that this means that a lying-in institution existed there some 15 centuries before Christ or not. The temples of Memphis and Thebes sheltered the sick and in the temples books of Hermes, works on medicine, were stored. Before medical art existed in Babylon and Egypt the sick were laid in the path of passers-by to get the benefit of their experience and, in the first named place, there was a law making this help compulsory. This practice spread from East to West and it may have been known among the Jews—certain incidents told

in the life of Christ undoubtedly lend color to the belief that it was.

"Alexandria was, in very early times, an important medical center. When Alexander the Great's dominions were divided Egypt passed into the hands of the Ptolemies. They perpetuated existing institutions in Thebes, Memphis and Heliopolis, and founded the Gymnasium, Serapeum, Museum and Libraries at Alexandria, to the latter of which an out-patient room was attached. Physicians trained there had a high reputation and their services were valued in countries far outside Egypt.

"Among the tombs clustering around the Pyramid of Sakkarah there stands one, small and unpretending, but having still a beautiful and very perfect inscription, which shows it to be the burial place of Sekhet'enanch, chief physician to the Pharaoh Sahura of the Fifth Dynasty. It describes how the physician had healed the King's 'Nostrials' and 'wishes him long life in Holiness.' 'Then the Chief Physician spoke before Pharaon,'—'May it please thy soul beloved of Ra, that there be given me a limestone slab like a door for this my tomb in the west-land.' 'Then the King commanded and they brought him two stone slabs like a double door from the quarry Ro'an, and they were set up in the court of his Palace, Chaurert Sahura. The chief taskmaster made the temple mason inscribe them as for the King himself. The Court visited them daily. His Majesty ordered the inscription to be done over with blue stone.' This is apparently the first mention of a physician in history, for the Fifth Dynasty is not of a later date than 3000 B.C. and thus the interval between Sekhet'enanch and Hippocrates is not less than the period that has elapsed between the 'Father of Medicine' and our own times.

"An interesting relic of Egyptian medicine is the Family Medicine Chest of Pharaoh Mentu-Hotep of the Eleventh Dynasty, about 2500 B.C. It contains 6 vases, 1 of alabaster and 5 of serpentine with dried remnants of drugs, two spoons, a piece of linen cloth, and some roots inclosed in a basket of straw work, the whole contained in a wooden chest found in the Queen's tomb and now in the Berlin Museum.

"One of the chief authorities on this interesting subject is the Ebers Papyrus already referred to, which its discover claims to be not merely the first known medical document but the oldest complete book in existence. It was written about 1550 B.C., sometime before the Exodus, and on it are marginal notes of its owner recording his ap-

proval of many of the prescriptions it contains. But it is not only a collection of prescriptions, it contains dissertations on anatomy and diagnosis, the most important of which is a treatise on the heart written by Ebsect. Clement of Alexdrandria says that the knowledge of the Egyptians was contained in 42 sacred books attributed to the God Hermes-Thoth, of which the last 6 were medical, dealing with anatomy, diseases, instruments, drugs, affections of the eye and diseases of women, and Ebers is of the opinion that this Papyrus is really the 'Hermetic' book on drugs, but there is intrinsic evidence in the nature of the Papyrus itself to favor the idea that it is rather a compilation than a sacred book. There are other Medical Papyri, though perhaps none of so much importance as this of Ebers. The chief among them is the Papyrus of Berlin of the Fourteenth Century B.C. It was discovered rolled up in a case under the feet of Anubis, in a town called Sechem. It contains numerous prescriptions, many of them enemata, a form of medicine generally believed to have been first used by the Egyptians. The writers on Egyptian medicine numbered among them one Royal author, Nacheptus of Sais, grandfather of the Pharaoh of the Bible. He is credited with the discovery of the medicinal virtues of 'Green Jasper,' a stone which, when engraved with a 'dragon of rays' and hung around the neck, was supposed to be a certain remedy for diseases of digestion. Some fine specimens of these charms are to be found among the Gnostic gems of the British Museum, and the Greek inscriptions call the dragon 'Chnoumis' the 'Destroyer of Demons,' So medicine flourished in the very early days of Egyptian history. More than 1000 years before Hippocrates this wonderful people had a knowledge of anatomy and physiology equal to that of the 'Father of Medicine' himself, and they possessed a varied 'Materia Medica' containing both vegetable and mineral remedies. But there came to them a period of stagnation in which no progress was made and in the Sixth Century B.C. Egyptian physicians having failed to reduce a dislocation of the foot of King Darius, which eventually was successfully treated by the Greeks, narrowly escaped with their lives."

The anonymous writer who has given this most interesting synopsis of the almost geological periods very properly infers and concludes that "That there is nothing new under the sun."—*Albany Medical Annals*.

ORIGINAL ARTICLES.

Spasmophilia.

By JOHN ZAHORSKY, M.D.,

St. Louis, Mo.

The immense amount of clinical research in regard to the spasms and convulsions of infants, which has been going on for several years, has finally terminated in the adoption of a new concept, which to the practicing physician must be very important. Reference is made to that large group of symptoms known as tetany, carpal spasm, carpopedal spasm, laryngospasm, eclampsia, etc., which have been found to occur in infants suffering from some malnutrition—notably, rickets. Heubner has applied the term spasmophilia to this group of related conditions, which is to be preferred to hypertarachia, as suggested by Baginsky. The term spasmophilous diathesis, which Thiemich uses, also fits in very well with our modern terminology.

Spasmophilia, then, is that diseased condition of infancy which is characterized by a hyperexcitability of the nervous system to mechanical, especially electrical stimuli, and depends on some derangement of nutrition. The clinical syndromes of carpopedal spasms, eclampsia or laryngospasm are only different phases of the same disease. Sometimes the disease is latent and its presence can be determined by the electrical test only (Erb's phenomenon), or by applying mechanical stimuli (Chvostek's or Trousseau's sign). The tendon reflexes show no change. These forms of nervous hyperexcitability in contradistinction to those depending on some developmental or toxic disease have their origin in the diet.

It has long been recognized that patients suffering from infantile tetany or laryngospasm usually show evidences of rickets, and so the postulate has been laid down that both diseases depend on the same underlying cause. Probably, the theory of Kassowitz that tetany is caused by a hyperemia of the meninges and cerebral cortex collateral to the congestion

of the cranial bones is entirely gratuitous and unfounded. It was this same author, however, who discovered the interesting fact that tetany occurs in the late winter and early spring months in the largest majority of cases, a peculiarity which does not entirely agree with rickets and for which no explanation has been offered.

Sabbatani, years ago, demonstrated that a diminution of the lime in the cerebral cortex increases the electrical excitability of the nervous system, and it is possible, as has been surmised, that the nerve tissue as well as bone and muscle suffer in rickets, to a varying degree in different individuals.

A hereditary predisposition, as in the case of rickets, has been distinctly traced in many cases, but is doubtful whether this factor needs to be considered.

Of great practical interest, however, was the discovery of Finkelstein that the electric excitability of the nervous system could be quickly diminished by the total withdrawal of cows' milk and the substitution of some cereal. The laryngospasm, too, usually ceased abruptly. This fact was most carefully studied and has since been corroborated by many observers, as Japha, in Neumann's clinic, by Mendelsohn and others. True, this connection is not invariable, in some cases the clinical symptoms do not disappear at once, but the favorable effect is too apparent in most cases to admit of doubt.

Finkelstein, furthermore, determined that the harmful effect of cows' milk is not found in the casein fat or sugar but in the milk serum—that is, whey; a very important finding in view of the fact that it has become the custom to use whey in many of the indigestions of infancy. One deficiency appears in the researches of Finkelstein and that is the relative influence of raw or boiled milk in the production of spasmophilia. As is well known, the Americans lay great stress on the tendency of Pasteurized and sterilized milk to produce rickets. Dr. E. W. Saunders, for example, was one of the earliest to call attention to this relation and many other American writers believe that there is such a connection. The English writers, too; *e.g.*, Pritchard, prescribes raw milk for children suffering with rickets. At the Bethesda Foundling Home for many years we have traced a relationship between boiling the milk and rachitis. This has been too frequently observed to admit of any doubt. Most of the cases of spasmophilia in

private which I have seen have been in infants who have been fed on condensed milk for a prolonged period.

It is difficult to recognize this experience with that of some French writers, *e.g.*, Variot, who sterilize the milk by prolonged boiling and yet do not discover any great tendency to rickets among the babies. In the Gouttes de Lait under the care of Variot, the milk is apparently boiled to death, as we would say, and yet he has the temerity to assert that no nutritive disorders follow.

Personally, the conviction that heating milk is one factor that predisposes to both rachitis and spasmophilia only becomes deeper as my experience goes. I will take the liberty to report a recent case, which illustrates several points which I desire to emphasize.

E. L., aged 7 months, was first seen by me February 14, 1906. The boy had been breast-fed only a few days, when, on account of ill health of the mother he was placed on substitute feeding. Condensed milk was the first food administered for a few days only and then replaced by a modification of cows' milk. This brought on a severe indigestion, and the physician in charge placed the baby, when about 2 months old, upon malted milk. He was still taking this food when I first saw him and apparently thrived on it.

About 2 weeks before my first visit the little patient began to have "choking spells." When he was excited he would suddenly have difficulty in breathing and inspiration was accompanied by a very loud crowing sound. These attacks, at first attributed to cold, gradually became worse and sometimes became alarming. A few days before, the infant began to have eclamptic seizures, some having their onset in the laryngospasm, others apparently independent of the throat trouble. The infant would become rigid, the eyes fixed, the hands clenched and the skin cyanotic. He had 8 to 10 convulsions daily. Some were prolonged. Medicine which had been prescribed for them seemed to do no good.

Examination revealed a very pale well-nourished infant. No teeth had appeared. No tenderness was found anywhere, but the rachitic rosary was well marked. No hemorrhagic spots were found. The internal organs were all normal as far as could be ascertained by physical examination. Chvostek's phenomenon was very marked and immediately served to cor-

roborate the diagnosis of tetany or spasmophilia. Trousseau's sign was not present, neither was a tonic carpopedal spasm noticed. The electrical reaction, unfortunately, was not made. The patellar reflex was normal.

As the infant had difficulty in digesting cows' milk previously, I concluded to be cautious in placing him on substitute feeding and, consequently, I advised adding one-half ounce of fresh, unheated cows' milk to each bottle of malted milk. Orange juice was also prescribed. As a general tonic the compound syrup of phosphates was ordered. On the following day there was no change in the child's condition, the spasms had continued in spite of full doses of chloral and bromid. The milk in the food was slightly increased and meat juice ordered to be administered.

The milk was gradually increased and on the fifth day of treatment, as the child was constipated, the malted milk was entirely discontinued and an alimentation of oat meal-water and milk, equal parts, was given. In order to prevent the hard coagulation of the casein, citrate of soda, according to Poynton's method, was used. No more general spasms occurred 3 days after the milk and tonics were given. The laryngospasms had also very much improved, but he continued to have occasional attacks for several weeks. Chvostek's sign could be elicited after two months. The nutrition improved very much, the evident signs of rickets also yielded in this time. Altogether, the convalescence was rather slow as far as the spasmophilia was concerned. The irritable nervous system kept pace with the general condition. It could not be denied that while a noticeable amelioration of the spasms ensued after 2 days of the diet, no such brilliant results followed the total withdrawal of milk as has been observed by Finkelstein. Still, in general this case teaches that while milk in the form of the sterilized malted milk and condensed milk may induce tetany, the addition of some fresh, unheated milk tends to improve the spasmophilia. It must be repeated then that the German school has overlooked this point and has not made the proper distinction between this class of foods.

I can recall at least two infants suffering from rickets and spasmophilia who had been fed on condensed milk and in each instance the nervous irritability promptly disappeared on placing the baby on a whey and cream mixture.

When we consider that tetany is very frequent in Germa-

ny, judging from the published cases, and connecting this with the fact that boiling the milk is universally practiced in that country, the question naturally presents itself whether or not an etiologic relation may not be discovered between boiled milk and spasmophilia. It is really remarkable how numerous are the deaths reported in the German clinics caused by laryngospasm.

Mendelsohn and Kuhn (*Arch. f. Kinderheilkunde*, Bd. 44, page 86) also traced an apparent relation between the milk and the spasmophilia. Several cases of laryngospasm were promptly relieved by discontinuing the milk. One infant had a recurrence which ended fatally when the mother gave a milk mixture. Several of their cases did not improve so promptly when the milk was discontinued, and a tendency to a recurrence of the severe attacks was observed even in infants kept entirely on a cereal decoction. How easily can one be mistaken in regard to inferences drawn from clinical symptoms is obvious from the history of one of his cases :

An infant with severe attacks of laryngospasms was given a cereal mixture (kindermehl) and the spasms almost disappeared. On the seventh day a violent relapse occurred which proved fatal and yet there had been no change in the treatment. Had a milk diet again been instituted the deplorable result would have been ascribed to that article of food. Nevertheless the authors mentioned recommend that in every case of severe laryngospasm a trial of discontinuing milk for several days should always be made.

Contrary to the findings of Finkelstein and Japha, Mendelsohn and Kuhn found a diminution of Erb's phenomenon (electric hyperexcitability) only in the minority of cases when the feeding with cows' milk was discontinued. Moreover, Chvostek's and Trousseau's phenomena were favorably influenced in a small number of cases only, most cases showing little improvement. Hence, they conclude from a study of their cases that the influence of a diet of cows' milk is less striking in cases of latent tetany than in laryngospasm.

In such a confused state is our present knowledge concerning this interesting disease; but whatever the ultimate decision, we owe a debt to Finkelstein in calling attention to the interesting phenomenon that the hyperexcitability of plasmophilia is increased by milk. Personally, I am still skeptical

that fresh, clean, unheated milk will have such a result, but more study is necessary to decide this point.

The treatment of the severer forms of tetany in the light of our present knowledge may be summarized as follows:

Stop the milk for a few days and give a cereal decoction. Add egg albumen or human milk to this decoction in a few days if laryngospasm is marked. In most cases clean, unheated cows' milk can be safely added after the third or fourth day. Do not use whey mixtures. Other well-known measures to combat the rickets should always be employed.

Meanwhile, it is well to bear in mind the question: Does heated or unheated, fresh or infected cows' milk affect the hyperexcitability of tetany? A few clinical observations with these points in mind would aid materially in formulating a rational diet in dangerous cases.

In conclusion, attention may be called to the heated controversy recently inaugurated by a study of Meyer of the Berliner school, in which he claims to have demonstrated that the ingredient of cows' milk which causes indigestion and toxic symptoms in the infant is not casein but the milk serum, that is, whey. In view of these opinions clinical observations on infants fed on whey mixtures are in order, as some definite light on the toxic principles of bovine milk would have an immense practical value.

[1460 South Grand Av.]

Case of Uremia, in an Infant, Simulating Meningitis.

By W. L. JOHNSON, M.D.

St. Louis, Mo.

On September 10th of this year, I was called to see Baby F., aged 2 months, a bottle-fed poorly-nourished male infant. I had officiated at his birth July 18th; and had started him upon a modified cows' milk—Fat 2, Proteids 1, Sugar 6. The mother could not nurse him. The infant had been well but had not gained much, if any, and was not particularly fond of his food. The milk source was our "Certified Milk." The infant was (September 10th) found to have a temperature of 101°, had vomited for 2 days, and had 8 to 10 malodorous

stools a day. Plain water was substituted for the food. Calomel in fractional doses was given. The following day the vomiting lessened, the stools increased to 14 in 24 hours and by September 14th the infant was very ill. The temperature, however, when taken, was never over 102.5°. On the afternoon of September 14th there was vomiting, depressed fontanel, evident complete blindness, irresponsive pupils, apparent paralysis of the left side (arm and leg) and complete paralysis of the bladder.

The picture, including the history of slight convulsive movements, except the condition of the fontanel, was one of meningitis, and the more so on account of a marked injection of the conjunctiva on the left side, lateral nystagmus and Cheyne-Stokes' respiration.

There was little doubt in my mind, and having many times seen meningitis at the Bethesda Foundlings' Home, and in private practice a few cases, I felt qualified to make the diagnosis. The bladder being distended (no urine having been passed in 36 hours) and all applications over its site failing, I had to catheterize. Saving the specimen, I examined it and found many hyalin, a very few granular casts, and an abundance of albumin.

The possibility of these symptoms being due to uremia now dawned upon me, especially since there was almost complete anuria for the next 3 days. This was probably the case, for the symptoms gradually disappeared and the child so much improved that I discontinued my regular visits September 20th. Since then I have seen the infant several times. Up to the 20th there was still albumin in the urine. I am now awaiting a specimen of urine, but the mother finds it difficult to obtain and I have not the heart to catheterize since it is not at present absolutely necessary.

This infant is not thriving; it is utterly unable to take any modification of fresh cows' milk and is now "trying" a weak Nestle's Food.

Attention to the urine in infancy should not be neglected at any time, and especially when there are convulsions. In this case there were slight convulsive movements.

Is it not possible that some cases termed "meningismus" by the French are really uremic and due to a toxic nephritis?

Recently, examination of the urine and autopsies at Bethesda, have revealed the fact that nephritis is not so very un-

common in infancy. These cases differ from primary essential nephritis in not giving rise to dropsy.

This case was probably one of toxic nephritis due to the gastrointestinal infection, and is recorded to show how we may be misled in our diagnosis and consequently our prognosis. Then, too, the accurate diagnosis would keep us from giving certain drugs which we might give under the impression that we were dealing with a meningitis—either in the hope of influencing the disease, or in desperation.

* * *

Since writing the above a very late specimen (October 22d) showed no albumin. The infant is doing "passably" well on condensed milk.

[2144 South Grand Av.]

Signs of Death by Drowning.

Vieira, before the International Medical Congress at Lisbon, considered when a body is found in the water: Was death due—1, to asphyxia consequent upon immersion or, 2, to some other cause?

Most writers believed death from other reasons than asphyxia to be rare. Vieira, on the contrary, thought it relatively frequent. When death was due to asphyxia, that is, took place so suddenly that the person had no time either to draw water into the lungs or to swallow it, the postmortem appearance due to this must be absent. There are at present, he said, hardly any evidence to determine whether death under such circumstance is due to respiratory syncope, to cardiac syncope, or to meningo-encephalic congestion or hemorrhage. To illustrate, he described the following case:

The body of an infant was found in a well. The parents when brought to trial said that the body of the infant was not thrown into the well until it had died a natural death in their arms. The body was that of a healthy infant, there were no signs of strangulation and postmortem appearances did not warrant the making of a more definite statement than that the death might have been due to respiratory syncope. The parents were therefore acquitted.

From "Medico-Legal," by Dr. E. S. McKee.]

SOCIETY PROCEEDINGS.

THE BETHESDA PEDIATRIC SOCIETY.

Meeting of October 19, 1906.

Dr. JOHN ZAHORSKY read a paper (see page 351, this issue) on
Spasmophilia.

DISCUSSION.

Dr. HOLLAND brought up the question of milk feeding in these cases, as spoken of by the essayist, relating some opinions expressed by Baginsky recently.

Dr. JOHNSON said that Nestle's food, or some other artificial food, had always been used in every case of tetany or rickets, that he had ever seen. He believed that these diseases are very rare when the baby has been fed on some modification of cows' milk unless spoiled by heat. Good results are obtained in these cases from cows' milk, or better still, from the wet nurse.

He also spoke of the use of phosphates in rickets and asked if the oil of phosphorus (National Pharmacopeia) is not better than the phosphates in this condition.

Dr. W. L. JOHNSON reported a case (see page 356, this issue) of
Uremia in an Infant.

DISCUSSION.

Dr. TUTTLE related the history of a similar case: A child, aged 6 months, suddenly attacked with high fever, stupor developing into coma, rigidity of the limbs, retraction of the neck, fixed pupils, combined with evidences of intestinal infection and toxemia. Treatment of and improvement in the bowel condition, however, did not remove the cerebral symptoms, so the diagnosis of meningitis was made. Unfortunately, no examination of the urine was made, much to my mortification. After death, the brain and the membranes were found to be normal, as were all the organs except the kidneys; these showed the most intense evidences of acute nephritis I ever saw. They were soft and mushy, more like brain substance, and seemed ready to break down into multiple abscesses. As yet the microscopical examination of them has not been made. The urine was not suppressed.

CURRENT EDITORIAL TOPICS.

The Origin of Sleep.

Every physician must acknowledge that we still know very little concerning the origin of sleep. Why must a person become unconscious during a third of his life, and what induces this phenomenon? The *Medical Record*, September 22, 1906 discusses this topic :

"The greatest variety of theories have been put forward to account for sleep. The psychological theory (Manaseine) is that sleep is a time of rest for consciousness. The histological theory (Rabe, Ruickard, Lépine, and Duval) attributes sleep to the retraction of the dendrites of the cortex cells, interrupting the connections of neurons. Howell's hypothesis is that sleep is due to cerebral anemia from a fall of blood pressure when the tone of the vessels is relaxed; but the objections to this are numerous. For example, somnifacient drugs may increase the blood supply to the brain; sleep is favored by small doses of alcohol; by the recumbent posture; the face is reddened in sleep, etc. Czerny, and after him Schleich, have concluded, in fact, that sleep is due to cerebral hyperemia.

"The chemical theory of sleep is also interesting. Pflüger believes that sleep is caused by lack of oxygen in the brain. According to Dubois, sleep is induced by an accumulation of carbon dioxide; according to Obermeister and Preyer, of toxic substances in the central nervous system. The chemical theory holds that sleep is induced by toxic substances generated by the nervous system itself, and yet it is a matter of common knowledge that men who work hard with their brains sleep far less than the average day laborer."

The writer then recalls the new theory of Dr. Albert Salmon,— "who maintains that sleep is induced by the internal secretion of the pituitary body." As proof, he cites the fact that somnolence is characteristic of tumors of the pituitary body. In sleeping sickness a hypertrophied pituitary body is found. To quote again :

"Somnolence is also noted in infectious diseases in which there is chronic meningitis and there is congestion or inflammation of the pituitary body (influenza). Certain intoxications and autointoxications (pilocarpin, morphin, gastric and hepatic poisons) experimentally induce hypersecretion of the pituitary and cause somnolency. Obese persons are often very sleepy, and functional disturbances of the hy-

pophysis cerebri are not infrequently noted in these persons. Somnolence is also found in all conditions causing a congestion of the hypophysis—such as epilepsy and injuries to the head.

‘On the other hand, insomnia is noted in tumors of the hypophysis with degeneration of this body; in the late stages of acromegalia, when the gland is partly destroyed; in Graves’ disease, in which at autopsy the gland is found atrophic; in certain forms of diabetes, in which the glycosuria is secondary to the lesion of the gland and of the glycogenetic centers situated in the neighborhood. Insomnia also exists in all conditions which favor atrophy or destruction of the pituitary body—as in old age, in inanition, in arteriosclerosis and in severe acute or chronic infections.’

Errors in the Examinations of the Stomach Contents.

The *New York Medical Journal*, August 11, 1906, calls attention to some sources of error in examination of the stomach contents. The test breakfast was introduced about 20 years ago and it served as the beginning of a long series of researches on the stomach which terminated in demonstrating the value of examining the stomach contents for clinical purposes. To quote :

“The test breakfast, as originally proposed, consists of a white roll weighing about 35 grams, together with 400 grams of water or tea without the addition of cream or sugar. The patient is directed to take this on an empty stomach and an hour later the contents of the organ are syphoned out with a stomach tube and analyzed. This is essentially the original method but, as Boas states in a recent article written for Ewald’s ‘Festschrift,’ every one of these specifications has been subjected to some change or other, so that in many respects there is little resemblance to the original procedure. Thus a common mistake arises from the fact that the precaution to give the meal on an empty stomach is not closely observed; it is simply administered before breakfast without any assurance being obtained that nothing remains in the organ from a previous meal. If this precaution be omitted the end result will, of course, be affected. It is essential that the test be preceded by the inspection of the stomach with the gastric syphon, in order to ascertain whether any residue is present. After this point has been determined the preliminary syphonage can, as a rule, be omitted with subsequent examinations.

“Another source of error arises from the fact that the test meal is not given early in the morning before breakfast, as originally prescribed, but at some other more convenient time of the day. It would

be possible to determine the presence of free hydrochloric acid by this means, but only a positive finding would have any value under these circumstances, and the quantitative determination of the HCl, or the presence of lactic acid and other substances could, of course, not be taken into consideration. Another, and most important factor, which affects this, as well as all other methods of a similar character, is the variation in the excretion of HCl which characterizes the individual. The quantity may vary within wide limits in different patients, and this fact demonstrates quite conclusively that a single examination of the gastric contents, except in isolated cases, can not possibly afford sufficient evidence for an absolute diagnosis.

"It seems, therefore, that this well-known and highly valued 'test breakfast' is, like most other clinical methods, subject to certain sources of error and is also limited in its application. Careful attention must be given to all secondary factors which may have a possible bearing on the outcome of the method and also to every technical detail of the procedure. Notwithstanding all this, there is little doubt that the method with the name of Ewald is closely linked will continue to be the simplest and most satisfactory diagnostic means for testing the secretory and motor functions of the stomach."

The Irregular Pulse.

The *New York State Journal of Medicine*, September, 1906, calls attention to the recent study of John Hay of Liverpool, who declared that no real distinction can be made between the intermittent and the irregular pulse. They are usually caused by an extra-systole, and not by an omitted systole as is often stated. The phenomenon is caused by a ventricular contraction independent of or synchronous with an auricular contraction, and hence, not enough blood is forced into the arteries to produce a pulse.

"Hay finds that this condition occurs in four classes of persons—those with an unusual high degree of excitability of the heart muscle, those whose blood contains toxins, patients with arteriosclerosis, and those with organic disease of the heart. It is not difficult to understand that organic disease of the heart might cause this stimulus to give an extra-systole, but still we can not forget how many cases of serious heart disease go on to death with an ever-regular pulse.

"In considering the prognosis of this condition Hay believes that too serious a view is taken of it. The presence of arrhythmia under certain circumstances may be of help in diagnosis or prognosis, but when it is the only abnormal symptom present it can not be viewed with

alarm. In a patient with high temperature, extra systoles indicate a severe toxemia. Occurring during convalescence extra systole simply signify a weak heart. In the acute stage of pneumonia or rheumatic fever arrhythmia bodes ill. The studies of Hay conclude that a pneumonia patient, whose pulse intermits during the first 5 days, rarely recovers, but irregularities at the crisis or during convalescence matters little.

The writer, furthermore, calls attention to another cause of cardiac irregularities, namely, an interference with the conductivity in the nerves connecting the auricles and ventricles—the bundles of His. To quote again:

“Still another case of irregular heart action is found in certain cases in which the auricle does not receive its primary stimulus through the normal path, but gets it from below or from the auriculoventricular bundle. In this case contraction of the auricles and ventricles takes place at the same time. Hay also points out that arrhythmia may be due to a dropped beat due to impairment of contractility. All of these conditions can best be determined by comparing synchronous arterial and venous tracings. He shows that the old classifications are without meaning. The so-called intermittent, the bigeminal, the trigeminal, and irregular pulses are all due usually to the same variation from the normal method of systole—namely, the extra systole. This extra-systole is the response of the ventricle to a stimulus arising in itself and antecedent to the arrival of the normal stimulus from the auricle. The extra systole usually disappears with an increase of the heart-beat frequency.”

Unhygienic Immunity.

“Immunity against almost any condition which threatens health may be acquired. There are certain fundamental things which general scientific opinion is agreed upon. It is agreed that pure water and pure air are better for the health than impure water and impure air, and the advance of civilization has resulted in the general acceptance of these beliefs. However, an immunity against many of the impurities existing in air and water may be acquired. It is well known that races which live in conditions which to us would be squalor, drinking and eating dirty foods, enjoy an immunity from the dangers of filth, and thrive under conditions which would be fatal to the more cleanly races. Intestinal infections which give the natives of India little trouble are fatal to the English soldiers. The people of some of the southern countries of Europe eat meat in a state of decay that would

prostrate the north European. One can cultivate an immunity from ptomains as well as from alcohol and tobacco."

With these sentences, the *New York State Journal of Medicine* calls attention to the well-know fact that we can become accustomed to various discomforts. We hardly share the writer's opinion that the Negro and Esquimaux when taken from their unhygiënic homes have a greater tendency to disease. Consumption among the latter race is probably due to the introduction of the germ. The influence of the civilized race is not because it teaches hygiene but because it brings the germs of disease. It is true that people can become too much accustomed to hygienic influences. To again quote :

"On the other side we have a still different picture. It is true that the strongest and most healthy persons often are made ill by violations of hygiene which the less robust endure without complaint. We know of persons who live according to the most advanced knowledge of hygiene, sleeping in the open air, and living out of doors practically day and night, who suffer from oppression of breathing, headache and even nausea, in the vitiated air of a theater or church, while the weakly shopkeeper or clerk, who spends most of time in an atmosphere of about the same quality, is comfortable and blithe.

"Thus, there are penalties for the healthy as well as for the sickly. These observations point to two things.—The human organism suffers temporarily from any sudden change into new conditions from old conditions under which it has thrived, whether it be for better or for worse; and it is capable of developing an immunity to poisonous materials, either inhaled or ingested, provided that the immunizing process is approached gradually. This power to become immune to the constant assaults of poisons is a part of the great organic law which has enabled animal life to endure, and which has contributed to the differentiation of species.

Tardy Accidents from Chloroform.

Increased attention is being given to the late accidents of anesthesia. A recent discussion of this subject by Tuffier and others, (*Presse Medicale*) is editorially abstracted in the *New York Medical Journal*, August 11, 1906. According to these authors the tardy symptoms of chloroform poisoning are rarely manifested before the expiration of 24 hours. To quote :

"At this time the patient, without warning, passes suddenly into a grave state in which the nervous phenomena occupies an important place. At one time they consist of a nearly continuous, quiet delirium; at other times and more frequently, the delirium is active. Convulsions appear in the form of general trembling or of partial facial contractions, with grinding of the teeth. The arterial tension is low, as it was during the anesthesia. The pulse is irregular, unequal and frequent, in contrast with the temperature, which is only slightly elevated. The respiration is sighing and finally becomes of the Cheyne-Stokes type. There are no symptoms indicating pulmonary lesion. Vomiting is an early symptom; it is at first bilious, presenting later a 'coffee-ground' appearance; it is violent and frequently repeated. In about half the cases jaundice has been observed. The urine is scanty and of a dark color, and contains a little albumin. The proportion of urea is diminished, notably toward the last. The urine contains bile pigments, urobilin and acetone. Ultimately there is coma, which indeed in some cases may appear at the beginning. The fatal termination supervenes after a variable period of from 3 to 7 days."

The morbid anatomy of the condition is found in an acute fatty degeneration of the liver. The kidney and heart also show degeneration. Again attention is called to the "danger arising from supersaturation of the tissues with chloroform."

The anesthetic should be given intermittently or in diluted state in some approved mixture.

An Amazing Fact.

"There are in the United States several surgical specialists, each receiving for earned professional service over \$100,000 a year. The profession, or many members of it, call them quacks, but they have medical college degrees; they do not charge more or as much as other surgeons for the individual operation of treatment; they are 'scientific' in the sense that they have excellent laboratories, make accurate examinations; slides, analyses, etc.; draw scientific conclusions from these examinations; have good technic; have superlative skill, and above all cure their patients with extraordinary success. They are quacks in these things: Their methods of treatment are secret; they have no hospitals; they treat nobody gratis; they do not attempt treatment in hopeless cases, and they curse the 'ethical' profession. They do not 'advertise' more than many famous 'ethicals,' and not so much as some. They charge their rich patients large but not exorbitant fees; their poor and poorest, small and smaller fees; none are 'bled.'

They cure their patients as soon as they can do so and the testimony of many is that their success in cure is greater than that of the 'ethicals' who practice this specialty. Their patients for the most part are well to-do, and especially the professional classes of all kinds. Their offices are crowded, engagements must be made in advance, they live 'in style,' they laugh at 'medical ethics,' charity, etc. Medicine with them is purely a business and a highly remunerative one. What are we going to do about it?"—*American Medicine*.

"What are we going to do about it?" We will continue to foster that high sentiment which Hippocrates taught us—that the practice of medicine is not only a business, it is more than that, a profession of mercy and loving kindness as exemplified in the life of the Master. Of course, there are many physicians who will always view the practice of medicine as a means to make money. There is no cure for this evil; it can only be partially stamped out.

MEDICAL DIGEST.

DEPARTMENT EDITORS.

Dr. M. A. Bliss, Neurology.	Dr. Adrian Bleyer, Internal Medicine.
Dr. H. N. Chapman, Electrotherapy.	Dr. Carl Fisch, Bacteriology and Pathology.
Dr. W. L. Johnson, Diagnostics.	Dr. M. J. Lippe, Pediatrics.
Dr. Philip Newcomb, Therapeutics.	Dr. J. C. Salter, Physiology.
Dr. C. D. Scott, Dermatology.	Dr. L. M. Warfield, Experimental Medicine.
Dr. O. A. Wall, Jr., Pharmacy and Materia Medica.	

Cerebral Decompression.

Spiller and Frazier (*Journal of the American Medical Association*, September 1-22, 1906) have very thoroughly covered this subject by a careful résumé of the literature and a presentation of their own extensive observations. Their conclusions, though expressed separately, are nearly identical and may be given in Spiller's words. He says, "my views as a result of my experience and of a study of the literature are :

"1. Palliative operations should be performed early in every case in which symptoms of brain tumor are pronounced and before optic neuritis has advanced far, especially where syphilis is improbable or antisyphilitic treatment has been employed.

"2. Partial removal of a tumor, especially of a glioma, is a questionable procedure.

"3. Palliative operation does not cause atrophy of a brain tumor and probably does not arrest its growth.

"4. Palliative operation is not to take the place of a radical operation when the latter can be performed without great risk to the patient.

"5. In some cases the symptoms of brain tumor disappear almost entirely for a long time or permanently after a palliative operation. This result is obtained either by relief of intracranial pressure or by the removal of some lesion (meningitis serosa, etc.) other than brain tumor, and yet causing the symptoms of tumor."

In discussing the decompressive operation Frazier remarks that there are two points on which difference of opinion might arise—the area of the brain to be uncovered and the incision of the dura. He believes with Sanger that a silent area of the brain should be selected and says the right temporal is the region of choice. Through a longitudinal incision, following the direction of the fibers of the temporal muscle, a section of bone equivalent to 6 or 8 square centimeters may be removed. He advises in a general way that the dura be left undisturbed, the decompressive results attained being as good, the risk of subsequent infection and other complications much less.

The paper was favorably discussed by the Section of Nervous and Mental Diseases of the American Medical Association before which it was read.

M A B.

Cure for Cholera.

Quinin is strongly recommended as a remedy for cholera. Koch states that a solution of $1/1000$ to $1/2500$ of quinin destroyed the cholera germ in from 10 to 30 minutes. Ussher used quinin in cases of cholera, giving 10 grains every hour until bile reappeared in the stools—giving 40 to 80 grains. He states that while under the old treatment nearly every patient died, while under the quinin treatment 90 percent of the patients recovered.

The method of treatment is to give 10 grain doses of quinin every hour until the rice-water stools have disappeared and bile reappears. Use also sweet spirits of niter, heat and friction while the urine is suppressed and injections of saline solution if the pulse is weak. If

irritability and foul odors persist, intestinal antiseptics are indicated.

A. O. W., JR.

Alcohol in Carbolic Acid Poisoning.

Clarke and Brown have come to the conclusion that alcohol has a local antidotal effect due to its solvent action. There is no evidence of chemical antagonism between phenol and alcohol, and there is no effect produced in phenol poisoning after the poison has been absorbed by the system. There is a local antagonism of alcohol to phenol and the use of alcohol in lavage is much superior to the use of water. The alcohol must be used while the phenol is still in the stomach and is not effective after it has been absorbed.

A O W., JR.

The Thyroid Gland and Sleep.

Lorand has found a direct governing power of sleep by the thyroid gland. He finds that whenever there is degeneration of this gland, sleepiness is produced and *per contra*, as in Graves' disease, where the thyroid gland is enlarged there is sleeplessness or insomnia. In myxedema the cortex cerebri is distinctly affected as we may readily see by the fact that intelligence, will power and other higher mental activities are peculiarly affected by this disease. Sleep is also one of the functions, the phenomena of which takes place in the cortex cerebri.

Myxedema is caused by a degeneration of the thyroid gland. Hertoghe has shown that in cretinism by the use of thyroid extract, the intelligence rapidly improves, the individual grows rapidly, becomes less sleepy and becomes brighter. We see sleepiness in all those conditions in which the thyroid gland is degenerated. This condition has been produced experimentally in dogs, by removing the thyroid gland, and the dogs became very sleepy and extremely difficult to arouse.

Sleepiness also accompanies obesity and the fat-producing properties of thyroid extract argues a direct relationship that sleep in these cases is controlled by the thyroid gland. Heisler mentions a case of catalepsy that improved under the thyroid treatment.

In overactivity of the gland we find insomnia or sleeplessness and we can also produce insomnia by large doses of thyroid extract.

The "sleeping sickness" may be due to degeneration of the thyroid gland. A similar pathology and even similar etiology have been shown. Myxedema occurs most frequently after some infectious disease, and in the case of the sleeping sickness this is trypanosomiasis. Lorand has found an amelioration of all the symptoms in sleeping sickness by the use of thyroid extract, the same as in myxedema, and has found much evidence to show that sleep is governed by the thyroid gland.

A. O. W., JR.

A New Method of Vaccinating Against Tuberculosis.

Calmette and Guérin, in their inquiries into the intestinal origin of tuberculous infection, noted the fact that tubercle bacilli that had been killed, by heat or otherwise, preserved the faculty or rather were passively capable of traversing the intestinal walls as easily as do living bacilli.

The thought readily suggested itself of using this route for the introduction of dead bacilli as a preventive measure; the idea promising a solution of many of the difficult problems that now confront the workers in this field, as to what route, what substance and what preparation of the bodies of tubercle bacilli may be most reasonably used.

The verbatim communication of Calmette and Guérin to the Academie des Sciences Francaise, June 5 and 12, 1906, follows in part :

"Experiences undertaken for another end showed us that tubercle bacilli killed by heat or treated with various reagents traverse the intestinal wall with the same facility as do living tubercle bacilli, and are found likewise in the mesenteric glands and even as far as the lungs.

"We have sought to find, therefore, if young animals (calves and goats) that were given doses of 5 to 25 centigrams of dead bacilli at an interval of 45 days could, after that time, resist the ingestion of 5 centigrams of bovine bacilli.

"We have been able to convince ourselves up to the present that bovine bacilli, killed by 5 minutes' boiling or simply heated at 70°C. for 5 minutes and ingested under favorable conditions will successfully vaccinate against virulent infections received by the intestinal route."

It requires 4 months for the protection to become active and its duration has not yet been determined.

The investigators announce their intention of applying this method as a prophylactic measure in cattle, which, if it remains inoffensive, should then be tried in the human species.

Roux and Vallée, who assisted at the above séance, declared that work now being done by them and along these same lines had shown results which agreed in every way with those of the investigators.—*La Med. Orient.*

A S B.

SURGICAL DIGEST.

DEPARTMENT EDITORS.

Dr. E. A. Babler, Surgery.

Dr. M. G. Gorin, General Surgery. Dr. Phil Hoffman, Orthopedic Surgery.

Dr. W. A. Shoemaker, Ophthalmology. Dr. H. J. Scherck, Genitourinary Surgery.

Dr. Selden Spencer, Otology. Dr. J. A. J. James, Rhinology and Laryngology.

Primary Malignant Disease of the Appendix.

Previous to the presentation of Merling's report of an autopsy finding of apparent primary carcinoma of the appendix vermiciformis, it was the opinion of the profession that all malignant processes in the appendix were secondary. Since Merling's monograph there have been 62 cases of primary malignant diseases of the appendix recorded in the literature. In 1903 Elting collected 40 cases of supposed primary carcinoma of the appendix. After carefully studying these reports Elting concluded that the case reported by Merling was not one of primary malignant disease of the appendix. He believed that the first case of primary malignant disease of the appendix in which a microscopical examination was made was reported by Beger in 1882. The patient was a man, aged 47 years; 3½ years previously a tumor appeared in the right iliac region, which was incised and about a liter of pus escaped; the wound never healed; no feces or gases appeared to have escaped through the fistula. When Beger operated he found the appendix attached by its tip to the base of the fistula and occupied throughout its entire extent by a carcinomatous process. Autopsy finding revealed involvement of the retroperitoneal glands.

Very recently Rolleston and Jones have studied the 62 reported cases of supposed primary malignant disease of the appendix. They have come to the conclusion that but 42 of these cases were really and

undoubtedly instances of primary malignant disease of the organ in question. Of these, 37 were carcinoma, 3 endothelioma and 2 were sarcoma. Concerning the rarity of the disease, they say :

"The condition is certainly a rare one but probably hardly so rare as has hitherto been supposed, for the growths may well have been overlooked owing to their slight malignancy and owing to their frequent association as minute growths with stenoses. Out of the total number (42) 41 have been placed on record during the past 10 years. Two appendices during the past 5 years removed at St George's Hospital for supposed simple inflammation were found to present malignant changes."

Of course, the true etiology remains unknown. In discussing the etiology of primary carcinoma of the appendix, Elting says :

"Theoretically, the appendix should frequently be the site of carcinoma because certain factors which are usually supposed to bear an important causal relationship to the development of neoplasms are in evidence in the organ. In the first place, carcinoma of the general intestinal tract tends to originate at those portions which are narrow or contracted, which is one of the characteristics of the appendix. Secondly, fetal remains as well as atrophying organs appear to be more prone to the development of carcinoma, and such a condition is supplied by the appendix. Thirdly, mechanical irritation, which is supposed to be such an important factor in the development of certain neoplasms, exists extremely frequently in the appendix, and usually results from the action of enteroliths, dried fecal matter and, occasionally, foreign bodies. * * * Fourthly, chronic inflammation, which in so many instances is followed by the development of neoplasms, occurs almost as frequently in the appendix as in any other organ of the body."

Primary malignant disease of the appendix occurs most frequently about the thirtieth year. The youngest patient reported in the literature was 12 years of age. Elting, on the other hand, has recorded an instance in which he found a carcinomatous appendix in a patient 81 years of age. A. O. J. Kelly's patient was 63 years of age. Concerning the age-incidence Rolleston and Jones say :

"It appears that the average age incidence of primary carcinoma of the appendix is 17 years lower than in other parts of the intestines. Further, the age-incidence varies in the different kinds of carcinoma of the appendix, being 52 years in the columnar-celled, 32 years in the

transitional form, 24 years in the spheroidal celled and 25 5 years in those cases merely described as 'carcinoma.' "

Cullingworth and Conner found that the carcinomatous process attacks the terminal portion of the appendix in about half of the cases. The disease may appear as—1, a hard, small, whitish nodule; 2, a more or less caseous little mass; 3, a nodule breaking down in the center; 4, an apparently fibrous stricture; 5, an apparent obliteration of the lumen of the tube, and 6, a nodular bulbous tip of the organ.

It is very fortunate that secondary growths are seldom present in these cases. Rolleston and Jones found that in only 5 of the 42 cases were secondary growths described as being present; in 2 of these 5 cases the abdominal lymphatic glands were involved; in 2 there were multiple growths on the peritoneum, and in 1 case there were growths in the liver and ovary.

The symptoms of primary malignant disease of the appendix are by no means characteristic. In fact, they so closely simulate those of chronic, relapsing appendicitis that a correct diagnosis has never been made before operation. Rolleston and Jones say :

"From the cases available for analysis it would be useless to attempt to build up a clinical picture by which a diagnosis could be made; indeed, as far as we can find out, a correct diagnosis has never been made before operation. This is hardly surprising, since the symptoms in nearly every instance were those of appendicitis in one form or another. * * * In some of the cases the symptoms indicated an acute condition, while in others the symptoms had extended over many years—in one case 12 years.

"The growth, it appears, may be either the cause or the effect of the changes producing the symptoms and may give rise to the symptoms of appendicitis; it is probably the cause in those cases with an apparently acute onset, or in which, the symptoms having been chronic, the growth is the main feature of the appendicitis. It is probably the outcome of chronic irritation in those cases of obliterating appendicitis in which the growth is recognized by the microscope only."

The literature shows the important finding that early excision of the diseased organ will eradicate the malignant process. Recurrence has seldom or never been observed. Rolleston and Jones are of the opinion that recurrence has never occurred. They mention the fact that the results, immediate and remote, of the operation have been surprisingly good.

The treatment is, of course, early excision. It is, more than probable that a more careful observation in the future will reveal the fact that the appendix is the seat of primary malignant disease more frequently than is now deemed probable. Before closing I want to mention the fact that Bernays of St. Louis has recorded one of the very rare cases of sarcoma of the appendix.

E. A. B.

The Present Status of Brain Surgery.

M. Allen Starr (*Journal A.M.A.*, September 22, 1906) takes up for discussion the surgical treatment of epilepsy, of brain abscess, of brain tumor, of cerebral hemorrhage, of relief of imbecility and idiocy. He states distinctly that only the focal epilepsies (Jacksonian) are open to surgical treatment, and even in those the scar formation following surgical intervention makes the result far from encouraging, but urges operation early on the ground that in some instances tremors are discovered and fatality prevented. Only 2 percent of epilepsies are open to operation and in only one-fifth of these may permanent cure be expected.

Abscesses should be operated on early. Headache, vertigo, vomiting; slow pulse, marked change in mental state, sensations of fullness and hebetude, slowness of thought, irritability of temper, defective memory and depression, tenderness of the heart to percussion, irregular pupils and optic neuritis constitute Starr's list of symptoms, which is striking in its completeness.

Lumbar puncture is recommended and reveals in meningitis an increased number of leukocytes. Examination of the blood showing a sudden and great increase of the leukocytes is confirmatory evidence.

Starr quotes Knapp's tables and concludes from a study of them and his own observations that only 5 percent of brain tumors are operable.

Radical operation, though it saves but few lives, should be done when possible. Decompression operations have much relief and prolongation of life to their credit.

In cerebral hemorrhage Starr quotes Cushing's test, *i.e.*, when the blood pressure, measured on a Riva Rocei apparatus, rises steadily to 250 mm. and coincidentally the pulse falls to 50, we are justified in

saying the case will be fatal and we are then warranted in resorting to operation, selecting the motor area opposite the paralysis, if present.

In intradural and extradural hemorrhage of the new born, Starr cites Cushing's method of opening the parietal sutures with scissors for the evacuation of clots, a procedure which may save many lives and much late impairment.

Operations for the relief of idiocy and imbecility are not recommended. Where athetosis and hemiplegia have been present, neither condition has been helped by operation.

M A. B.

Round Shoulders.

Who has not worried about round shoulders? There can be no doubt that early training is the best prophylactic. Round shoulders do not signify lung disease. Personally, we should desire someone to conduct careful observations in regard to abdominal neuroses and round shoulders. In this connection the conclusions of Fitz (*Boston Med. and Surg. Jour.*) may be called up-to date knowledge :

"Resistant forward shoulders are symptomatic of anatomical conditions.

"The commonly accepted statement that tight pectoral muscles are the cause is not tenable.

"The most common factor in forward shoulders is the tightness of the serratus muscle.

"An occasional factor usually associated in extreme cases with the above is shortness of the coracoclavicular and acromioclavicular ligaments whereby the union of clavicle and scapula is made so rigid as to prevent full backward and downward movements of the shoulders.

"Systematic examination of forward shoulder cases is necessary in order to identify the definite causes of restriction of motion.

"The early recognition and treatment of pronounced cases is important since self correction is unusual, and the reflex moral effect is serious.

"When stretching and muscular development fail, it is possible to incise tight coracoclavicular ligaments, and thus free the shoulder from rigid interference.

"The term 'round shoulders' is misleading. Forward shoulders (postural or resistant) is far more definite, but should be accompanied by a definite statement of the cause of resistance."

YESTERDAY AND TODAY.

DEPARTMENT EDITORS.

Dr. E. A. Babler, Surgery.

Dr. Adrian Bleyer, Medicine.

Whoopingcough.

Clinicians are by no means agreed as to the remedial measures which insure the best results in whoopingcough. The fresh air treatment is popular, and some antispasmodic—belladonna, antipyrin, bromides, pyrenol, aspirin, codein, etc., will often be found necessary. Bromoform is still used, and no doubt acts well at times. It may be well to recall the treatment advocated by Dr. Gibb (*Lancet*, August 12, 1854), who believed he had found in nitric acid a specific. To quote :

“It would be presumption in me to say that this substance has been discovered, but in its effect upon the disease, nitric acid, in whatever manner administered, not only arrests the paroxysms and removes the whoop, but shortens the disease almost as effectually as quinin does intermittent fever.

“It not only produces a powerful antispasmodic effect but an equally tonic influence and supplies the blood an element—nitrogen—which removes or neutralizes the excess of fibrin existing in that fluid—one of the dangerous elements of the disease, and so destroy the poisonous principle combined with it, which is the primary cause of the affection.

“If this remedy cures pertussis, it differs from the great majority of others in the fact that its action in the economy can be explained upon rational grounds.

“Nitric acid possesses antiseptic properties in a high degree and probably the influence of these assists materially in the cure by acting directly on the blood as well as supplying its nitrogen and prevents the too rapid generation of the fibrin from the albumin.

“The nitrogen acts also as a sedative in diminishing the stimulating effect of the oxygen so rapidly absorbed, and as an antispasmodic in allaying irritation, and therefore lessening the severity of the paroxysms. If hydrocyanic acid is useful in many cases, it is as much owing to its nitrogen as to the sedative and antispasmodic properties which it possesses.

“The presence of the excess of fibrin has been elsewhere ex-

plained to depend upon the frequent inspirations, immediately after the paroxysms have ceased; it may also be influenced by the peculiar poison itself which has contaminated the blood. Whatever remedy will check this tendency materially assists in the cure; it is in this manner that ether and chloroform act by arresting the process sanguineous and superoxidation and, with the other properties possessed by those agents, equally assist in the cure.

"As a general tonic, nitric acid possesses the advantage in pertussis of rapidly allaying the dyspepsia, which is sometimes accompanied with sickness and irritability of the stomach; it restores the healthy state of the mucous membrane of the bronchi, it arrests the spasm, diminishes the cough and finally dispels the whoop altogether.

"Dr. Arnoldi and myself have never met with any ill effects from its use and all the cases treated with it were carried to a successful issue, the cure in all being very speedy, with few exceptions, and the disease being at the same time abridged in the length of its ordinary duration. So far as experience has shown relapses after cure are very rare indeed.

"Should inflammation of the lungs or abdominal organs have set in previous to its employment, it must be avoided and the treatment must be adopted as recommended for those complications in the next chapter.

"Put if we have reason to fear congestion of the brain or convulsions, the acid may safely be given and with good results for the purpose of lessening the paroxysms. It may also prove useful in the remittent fever, combined with other substances, if there be no existing irritation. * * *

"My friend, Dr. Arnoldi, has treated upwards of 100 cases of pertussis with nitric acid with the most satisfactory results, and since I commenced its use, 67 cases were cured at intervals varying from 2 to 13 days—averaging between 6 and 7 days."

The Consumption of Horse Flesh.

It is difficult to account for the almost universal antipathy that exists toward the use of horse flesh as food; rather, it is difficult to assign a reason for its non-use.

In reviewing some comments and opinions that we have seen on the subject, we venture to think that the objection may not be one based so much upon an acquired aversion to the flesh of this animal particularly as to the mistrust in human nature; simply on the ground that it would be unreasonable to suppose that any but animals whose

usefulness in the ordinary ways had passed, would be sacrificed for food. The value of meat from good stock would be too high, and that from poor stock or from senile animals or from those dying on the streets would be entirely undesirable.

These facts, however decisively satisfying the public mind, are nevertheless opposed by both scientific and economic reasons: First, we know that the meat of the horse is especially nourishing and is almost uniformly free from tubercular taint or parasitic invasion. Again, horses exist in great numbers whose market value is far less than that of cattle, which are nevertheless kept in the harness, plainly unfit for the purpose for which they are used.

It is such animals as these that might be selected by competent inspectors and be used for food, although it is perhaps true that in this country, where money is more plentiful and the commercial conscience not overly tender, that the aversion based upon a lack of faith in dealers will serve, for many years at least, to prevent a broad acceptance of horse flesh in the ordinary dietary. The only possible manner, we think, in which such a demand could be created here, would be to inaugurate the breeding of horses for purely edible purposes, and this by persons of unquestioned honesty.

Let us glance for a moment at some historical facts in this connection, that have been pointedly expressed in *Le Journal des Debats*, Paris, September 22, 1906:

In this article we read that the consumption of horse flesh is decidedly on the increase in European countries, revealing the success that is following certain specialized efforts by individuals and by societies. In France, there exists today, a "Comité de la Viande de Cheval," and in Germany a similar organization, the "Tierschutzverein," whose object is the instruction of the public in this matter. In England and in Italy like associations exist and are supported by the medical professions.

In Austria, it is stated that there is already such great use made of horse flesh as a food that exploitation of the idea is found to be found unnecessary. (It will be remembered that the consumption of meat generally in Austria—111+kilo per head, is more than twice as much as that of any other country. United States, 54+kilo per head; England, 47+; almost 3 times as much as Sweden and Norway—39+; more than 3 times as much as France—33+; almost 4 times as great

as Germany—31+; over 5 times as great as Spain—22+; and 11 times as great as Italy—10+).

Formerly, among primitive people, the use of horse flesh was universal. It was not until the edict of Pope Gregory III, that the custom was changed and it was abandoned as a food among the Christian nations.

In China horse meat has been eaten during the past 10 centuries, and the first European race to take it up again was the Danish in 1807, following the invasion of their country by Napoleon. It is also due to the Napoleonic Wars in Germany, that hippophagia was again begun in that country in 1815.

The first abattoir for the horse was opened in Prussia in 1847, during a year of great famine. And the custom in France dates chiefly from the periods of distress in 1870.

It is to be hoped, since horse flesh has been shown to possess not only many excellent properties, but even zomotherapeutic virtues, that neither an unscrupulous commercialism nor a silly estheticism will stand in the way of its use.

Whether or not there is a demand for another meat remains to be determined by those will consume it; but quite certainly there does exist a demand for more meat among our poorer classes, and this may perhaps, and with every propriety in the future, be supplied by the horse.

A. S. B.

Tetanus.

We are often surprised at the clear insight into the nature of disease that some of the old masters possessed in spite of the fact that they were greatly impeded by a lack of knowledge in regard to bacteriology. Professor Simpson (*Monthly Journal Medical Sciences*, 1854), in discussing puerperal tetanus, recalls the fact that the separation of the placenta produces a raw surface similar to an external wound.

As to the nature of tetanus he offers a few hypothetical remarks:

"We have in obstetric pathology evidence almost amounting to certainty that the analogous superexcitable state of the cerebrospinal system of nerves which give rise to eclampsia or puerperal convulsions is generally produced by the existence of a morbid poison in the blood.

And it seems not impossible that the generation of a special blood poison, at the site of the wound or elsewhere, may sometimes in the same way give rise to obstetrical and surgical tetanus. We know, indeed, that the introduction into the blood of particular vegetable poisons is capable of exciting an artificial disease quite analogous to tetanus. Brucin and strychnin have both of them, as is well known, this effect. Abundant experiments upon the lower animals and cases of poisoning in the human body have amply proven this. Tetanus is a frequent disease from wounds, etc., in the horse and other lower animals. Would it not, in relation to the possible humoral origin of the disease, be worthy of trial whether the blood of an animal dying of tetanus is ever capable by transfusion of infecting another animal with the same malady? The experiment is said to have succeeded with a disease having many analogies with tetanus, viz., hydrophobia."

We now know that the disease is produced by a poison that is formed by the tetanus bacilli in the wound. It is true that the blood of an animal sick with tetanus may, at the beginning, or even preceding, the acute symptoms contain the tetanus toxin in large amounts, so that transfusion of such blood or the hypodermatic injection of the serum from such blood induces tetanus. Of course, the theory of Sims that trismus nascentium may be caused by displacement of the occipital bone has only an historical interest, but otherwise his suggestions in the following paragraph are correct :

"We know further, with regard to the tetanizing effects of strychnin and brucin, that these agents do not necessarily require to circulate in the blood in order to produce their special effects. In the lower animals, when strychnin or brucin is applied directly to the spinal cord, tetanic effects instantly follow; and in all probability, when they are introduced into the blood, they produce their tetanizing consequences, by being carried into the current of the circulation to the cord—thus toxicologically influencing it, as if they were primarily applied to it. Centric irritation, or centric morbid condition of the cord (and it may be, of the cerebrospinal system), may lead on, according to these experiments, to tetanic disease, independently of any morbid state of the blood. And, if the observations of Sims, Harrison and others, are correct as to the occasional mechanical origin of trismus nascentium from the pressure and displacement of the occiput upon the medulla oblongata, we have, in this obstetrical instance, tetanus resulting—as it certainly sometimes does under other circumstances—from direct injuries or affections of the nervous centers."

Is it not remarkable that the action of the toxin should have been

so well described 40 years before Nicolaier found the bacillus tetanus? To quote further :

"The appropriate and specific affection of the spinal cord or cerebrospinal system, constituting traumatic tetanus, would appear to be sometimes, if not always, a condition excited by some influence propagated upward along the nerves from the seat of injury or wound to the central portions of the nervous system. In proof of this we have the fact that occasionally (as in cases published by Hicks, Murray, Larrey, etc), but not often, the artificial division of the nervous communication between the seat of the wound and the nervous centers has arrested the disease, when performed in a very early stage of the attack. What the nature of the transmitted influence may be we have no reason at present of judging. But we have analogies for the transmission itself in some of the phenomena of electrical induction and propagation. And let me further add that the symptoms of tetanus assimilate themselves very greatly to a rapid succession of electrical or galvanic currents transmitted peripherally from a nervous trunk or center to the sets of muscles affected."

It is one of the triumphs of recent experimental investigations to have demonstrate that the tetanus toxin does travel along the nerve to the cord, a fact which was anticipated by the clear thinking mind of Simpson.

Luther's Headache and the Devil.

Martin Luther was a strict believer in the early doctrine which taught men to hold the devil responsible for the origin of all diseases. He thus expressed himself, for instance: "No disease comes from God, who is good and does good to every body; but it is brought on by the devil, who causes and perform all mischief, who interferes with all play and all arts, who brings into existence pestilence, Frenchmen, fever, etc." He accordingly believed that he himself was compelled to scuffle with the devil when his physical condition was out of order. Thus, when suffering from violent headache, he wrote to the Elector, John of Saxony: "My head is still subject to him who is the enemy of health and of all that is good; he sometimes rides through my brain so that I am not able to read and write," and upon another occasion he said, in regard to his health, "I believe that my diseases are by no means due to natural causes but that 'Younker Satan' plays his pranks with me by sorcery."—Dr. Hugo Mangus in his book "Superstition in Medicine."

BOOK REVIEWS.

Golden Rules of Pediatrics.

"Medical Guides and Monograph Series." Aporisms, Observations, and Precepts on the Science and Art of Pediatrics: Giving Practical Rules for Diagnosis and Prognosis, the Essentials of Infant Feeding, and the Principles of Scientific Treatment. By John Zahorsky, A.B., M.D., Clinical Professor of Pediatrics, Medical Department Washington University, St. Louis; ex President Bethesda Pediatric Society; Attending Physician to the Bethesda Foundlings' Home; Member of the American Medical Association, and of the St. Louis Academy of Science; Editor of the ST. LOUIS COURIER OF MEDICINE; Author of "Baby Incubators," etc. With an Introduction by E. W. Saunders, M.D., Professor of Diseases of Children and Clinical Midwifery, Washington University, etc. Price \$3 00. The C. V. Mosby Medical Book Co., St. Louis, 1906.

In this attractive book an attempt has been made to collect the dominating propositions which guide the practitioners in the practice of pediatrics. It occupies a singular position among works on this subject, its plan being entirely original. This plan is best described by illustrations:

Occasional Vomiting in an infant has no diagnostic significance; severe vomiting beginning suddenly in an otherwise healthy child suggests acute indigestion or acute gastritis, but it must not be forgotten that almost any infectious disease may begin with vomiting; therefore take the rectal temperature, and if high fever is present, study the case from the standpoint of fever.

Be Sure to palpate the abdomen carefully in all cases of vomiting, especially when accompanied by crying or other signs of pain; appendicitis, intussusception, and other intestinal obstructions begin in this way.

Do Not Forget that uncontrollable vomiting occurring in an infant soon after birth and persisting for days, with no other signs of illness indicates the presence of pyloric stenosis.

Remember that Vomiting is sometimes the first sign of failure of the heart, as in diphtheria, pneumonia, or valvular disease.

Do Not be Confident that you can distinguish cerebral vomiting

from that form due to gastroenteric disturbances; the distinguishing characters are clearly laid down in textbooks; but in actual practice these characters are seldom sufficiently marked to be of diagnostic value.

Nevertheless, apparently causeless vomiting occurring in a child with a persistent irregular febrile movement and attacks of severe headache suggests tuberculous meningitis. Especially is this true if the child has previously been intimately associated with phthisical persons.

A Compend of Medical Chemistry.

Inorganic and Organic, Including Urinary Analysis. By Henry Leffmann, M.D., Professor of Chemistry in the Woman's Medical College of Pennsylvania, and in the Wagner Free Institute of Science. Fifth edition, revised. P. Blakiston's Sons & Co, Philadelphia.

In the preface of this little work, the author considers the matter of using Compend in the professional schools and, quite naturely, their propriety. Whenever we receive for review a compend, the possibilities for good and for harm that may be derived from them immediately suggests itself to us.

On the whole, we do not favor their use, in the first place because they unfaillingly tend to create a desire to learn mere facts, condensed in the extreme, and excludes from one's mind the serviceable habit of personal inquiry. In the second place, we should never sanction for the student the desire to merely learn enough to pass his examination regardless of how much real and substantial learning he might have been able to acquire had he given proper and individual thought to the reasons, the "rationale" of his instruction.

On the other hand it must be admitted that the intelligent and watchful student may frequently avail himself of compends for the acquisition of detailed facts, the basic facts upon which his textbook by their exhaustiveness have cast an umbrage. After all, we say, the use of the compend comes back to the man and is not the matter of a book. We agree with Dr. Leffmann that perhaps the right sort of man will not be injured by their use, but we can not leave the position that perhaps the "average" man will, nor that the man of lesser capacity is playing with a dangerous tool.

The little book is remarkably full of information and covers an

immense field. The watchful student, should he desire in résumé the main facts given in the classroom, will be able to refresh his mind here.

A Compend of Materia Medica, Therapeutics and Prescripton Writing.

Based on the Eighth Revision of the U. S. Pharmacopeia. By Samuel O. L. Potter, M.D. Revised and enlarged. P. Blakiston's Sons & Co., Philadelphia.

This well-known compend has been revised to accord with the Eighth Revision of the U. S. Pharmacopeia and is a handy, reliable volume containing the essence of the subjects.

The practitioner who has more voluminous works but wants an inexpensive recent one will do well to obtain this book as an auxiliary.

Kiepe's Materia Medica and Therapeutics.

A Manual for Students and Physicians attending post graduate courses. By Edward J. Kiepe, Professor of Materia Medica in the Department of Pharmacy, and Adjunct-Professor of Materia Medica and Pharmacology in the Medical Department, University of Buffalo. In one 12mo volume of 265 pages. Cloth, \$1.00 net. Lea Brothers & Co., Philadelphia, 1906.

A good manual: 'We like the method of handling what is often a dull subject. While a book like this is especially prepared for students, the general practitioner also will derive benefit by perusing the pages. Lea Brothers' Epitome Series of Medicine are fully abreast of the times.

Chemistry :

General, Medical and Pharmaceutical, Including the Chemistry of the U. S. Pharmacopeia. A Manual of the Science of Chemistry and its Application in Medicine and Pharmacy. By John Attfield, F.R.S., M.A. and Ph.D. (Tubingen), F.I.C., Professor of Practical Chemistry to the Pharmaceutical Society of Great Britain, 1862-96, etc. Edited by Leonard Dobbin, Ph.D., F.I.C., F.C.S., Lecturer on Chemistry in the University of Eninburgh, etc. Nineteenth edition. Lea Brothers & Co., Philadelphia and New York, 1906.

Ever since 1869 this work has been one of the authoritative works on medical chemistry, and the latest revision brings the knowledge

conveyed closely within the borders of recent chemical discoveries. Radium, however, is merely mentioned in the table of elements. The text is arranged especially for class work, special attention being given to chemical test and experiments. Qualitative analysis is fully described. Organic chemistry receives full consideration and about one-half of the volume is taken up in the elucidation of this branch of chemistry which most interest the physician. The chemistry of milk seems to be a good many years behind the times. A chapter on volumetric analysis closes the volume.

As in all revisions, some part is kept ahead of others in the way of practical ideas. Some articles necessarily remain inferior to others, but we can truthfully say that the 756 pages contain an enormous amount of information regarding medical chemistry. No mistake can be made in buying this work.

Taber's Pocket Encyclopedic Medical Dictionary.

Edited by Clarence W. Taber. author of "Taber's Medical Dictionary for Nurses," etc., Associate Editor, Nicholas Senn, M.D., Ph.D., LL.D., Professor of Surgery, University of Chicago, etc. C. W. Taber, Publisher, Chicago.

We have have had pocket dictionaries and pocket emergency guides presented to us, but here we have a well-arranged cyclopedia. It is astonishing the amount of information condensed in this volume, which is well bound in leather and can readily be carried in the coat pocket. Think of it! A practice of medicine and a dictionary all in one little book.

Part I (224 pages); defines general medical terms and discusses diseases. Part II, gives a vocabulary of electro medical terms. Then a very complete description of surgical technic in nearly all the important operations, followed by a description of surgical instruments and appliances.

The symptoms of disease and diagnosis of medical diseases is concisely given in alphabetical order. Dislocations, fractures and sprains, hemorrhages and wounds receive consideration. Then there are a lot of other things. A wonderful book which should become very popular.

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CLINICAL NOTES.

New Developments in Vibratory Appliances.

A vibrator which will work equally well on either direct or sixty cycle alternating current is a big step in the production of mechanical vibrators. This is brought out in connection with the already remarkably ingenious and efficient vibrator, the Physician's Vibragenitant. The makers accomplish this by interposing in the circuit in the case of direct current a special contrivance, which adapts the current to the mechanism of the Vibragenitant. This not only renders it possible for the physician to secure the equal of two machines at the cost of one, but obviates the use of platinum points in the vibrator itself, thus eliminating a part which is always subject to deterioration in any mechanism. The physician is now able to have a portable vibrator, which will operate in his office on one current, and at the house of the patient on another. To our knowledge this is the only instance we know of in the history of vibrators where the same machine can be used on two currents with equal facility.—*Denver Medical Times*.

The Physician's Vibragenitant and other Vibratory Appliances are manufactured by The Sam J. Gorman Co. 153-159 So. Jefferson St., Chicago, Illinois, who will send literature on request.

Cholera Morbus - Dysentery.

During the Summer months every doctor should remember that Dioburnia is the remedy par excellence in cholera morbus, dysentery and other bowel troubles prevalent during the Summer months, restoring the stomach and bowels to their normal condition, free from all narcotics or other deleterious drugs. As an antispasmodic and uterine tonic, Dioburnia is unequaled. In the treatment of dysmenorrhea it is unexcelled. Dose: Dessertspoonful in hot water every two or three hours.

Bacteriological Chart in Colors

Showing Sixty Characteristic Plates of Pathological Bacteria. M. J. Breitenbach Co., New York, 1906.

The Chart embraces sixty plates, the majority of which show the characteristic bacteria, with the distinctive stainings, magnified 1,000 diameters. It includes eight different plates of *Hæmanmæba malaris*, showing the organism at various stages of development, and in the different forms which it assumes in the various kinds of malarial fevers. In these particular plates, as well as those showing *Amæba coli*, an even greater magnification is given.

The chart has evidently been brought down to a very recent date, as it embraces an admirable illustration of DeLisle and Jullien's bacillus of syphilis. The work is one of the most admirable pieces of lithographic production that we have ever seen emanate from an American house, and the fine gradation of color and variation in tints are so accurately reproduced as to make the chart of great value as well as one of an unusual degree of artistic merit. It is securely mounted in a form which enables the physician to suspend it for ready inspection.—*New York Medical Journal*.

This Chart will be mailed free to any regular medical practitioner, upon request, mentioning this journal.

Epilepsy.

I have used your preparation, Neurosine, in a severe case of epilepsy, which has been running from bad to worse for five years, this last year he has been having an attack every other day. He has now been taking Neurosine for some six weeks without a paroxysm during this time.

Dr. S. T. Baner, Philadelphia, Pa., January 9, 1906.

Antitetanic Serum.

The approach of the national holiday, July 4th, suggests to the surgeon the necessity of preparing to handle cases of cannoncracker wounds and other injuries caused by the explosion of fireworks. Many of these, in the nature of things, will be infected with the bacillus of tetanus or its spores, and will require the most scientific treatment to save life. It is necessary only to review the files of this and other leading medical journals to gather a fair estimate of the enormous sacrifice of life that this country makes

every year in celebration of Independence Day, and it behooves every medical practitioner to be prepared to receive and treat each case that presents itself with the best means at his command.

Without repeating the statistical facts that have been cited again and again in support of the prophylactic use of Antitetanic Serum, it is only necessary to say that these facts conclusively prove the value of the Serum as a preventive of tetanus. It is injected in a single dose of 10 cc. immediately after receipt of the injury, and should be repeated ten days later. The wound is to be thoroughly cleansed, avoiding the use of strong solutions or agents that coagulate the albumins, and packed with gauze well charged with Antitetanic Dusting Powder. Antitetanic Dusting Powder is Antitetanic Serum dried and powdered and mixed with a suitable quantity of Chloretone. It is recommended by reliable and experienced medical practitioners as a dressing for the wound in all cases in which tetanic infection is suspected. It is practically odorless and keeps well.

Antitetanic Serum and Antitetanic Dusting Powder are supplied by Messrs. Parke, Davis & Co. and may be obtained through all druggists.

Facial Erysipelas.

I have been using Germiletum in facial erysipelas with the same good result that I have had in eczema and other skin troubles. I have used it in tonsillitis, peritonsillitis, rhinopharyngitis, etc., with entire satisfaction to myself and patients. My faith in the preparation increases as I continue using it.

Dr. E. W. Bogardus, Romulus, New York, March 13, 1906.

A Few Facts.

The expression, The "Best" Tonic, used in connection with Pabst Extract contains a suggestion of olden days which carries one back to the time of Phillip Best in 1844. Who could foresee that his small beginning would result in the mammoth Pabst plant of today; the plant where emanates one of the most widely-known Malt Extracts on the market! It is logical to suppose then, that the people at large are interested in the whys and wherefors of the success of this same "Best" Tonic, and it is our pleasure to satisfy that interest.

Pabst Extract The "Best" Tonic is a preparation whose ingredience are well known to the medical profession and the public at large. It is made from choicest malt and hops. Malt is made from barley, by making the grain sprout, thus producing certain chemical changes which add to its nutritive value and render it easily digestible. The sprouted barley is dried by gentle heat, to preserve its nutrition intact, and is then called malt. The food elements of this malt are converted, by scientific process, into liquid form, resulting in an extract which is added to lupuline, or the extract of hops. This combination forms one of the most valuable preparations known to science and is called Pabst Extract, The "Best" Tonic.

The very fact that the Government Chemist and Board of Judges of the World's Columbian Exposition in 1893 declared Pabst Extract at the head of scientific malt foods, far in advance of anything in the way of malt extracts suited for food or medicine, and accorded it a mark of 100 points of perfection, speaks volumes. Needless to

say its quality and perfection has been carefully fostered, the greatest caution being exercised to maintain the standard. This care is evidenced in the complete equipment of the plant in which the extract is made, no money or time being spared to add any new features in the way of machinery, etc., which will improve the product.

Pabst Extract, The "Best" Tonic is, strictly speaking, a medicinal preparation and as such is prescribed by many physicians in their daily practice. From actual tests it has proven its right to be called The "Best" Tonic, for it will aid digestion, help the invalid, produce natural sleep, help nervous people, feed nerves, combat exhaustion in nursing women, build up the convalescent, strengthen the delicate and overworked and is equally efficient in maintaining the general health by combating the ills incident to the present high tension of living.

Although Pabst Extract has enjoyed and is still enjoying wide-spread favor with the medical profession, its value as a Tonic has proven its best advertisement, and the sales have increased from year to year until today it is sold in almost every civilized corner of the globe.

Useful Reminder.

We have recently received a very neat and useful addition to our desk equipment in the shape of a paper cutter and check perforator, combining two very useful articles in one.

The Martin H. Smith Co. are to be congratulated on choosing such an appropriate reminder of their preparation, Glyco-Heroin (Smith).

Enterocolitis.

I was called last August to see an eight month's old boy who was said to be dying of cholera infantum. He had been treated by two capable men, both of whom agreed that the child could not outlive the day. Every conventional remedy had been tried and the favorite methods of both men had been exhausted. They frankly admitted that all had been done that could be done. I found the patient almost moribund and displaying all the symptoms of a child dying of what I diagnosed as enterocolitis. The case was turned over to me at 9 a.m., August 7th. A trained nurse was already on this case. She is an unusually competent woman, in whom I have the most implicit confidence. Then began one of the hardest battles of some years in my experience. I ordered high enemas of Glyco-Thymoline in 25 per cent solution and warm. Used four ounces at a time with a soft rubber catheter once every three hours. The child could retain nothing, was in frightful pain and passing constantly thin, foul smelling discharges tinged with blood. The child was emaciated to the last degree and for several days before I was called had been in a semiconscious state. The poor little baby was a pitiful sight. For nourishment I ordered several combinations to be administered, an ounce at a time, as a rectal clyster following the enemas of Glyco-Thymoline.

I know it is not good practice to give hypodermics to an infant, but this was a grave case. My predecessor had ordered gr. 1/64 morphin, gr. 1/960 atropin, sub. q. every four hours if needed, with strychnin 1/240 gr. if

necessary. I continued this as the baby was often in intense pain and there seemed to be no other way. This was my plan of campaign and I am both thankful and pleased that it was successful. The baby improved from the first, but so slowly that it was scarcely discernible to the parents, but the nurse and myself saw it. After three days the child could take nourishment per oram. I then gave 2 m. of Glyco-Thymoline in one ounce of water every two hours before feeding. It began to have short periods of natural rest and the discharges were in every way improved. At the end of a week, August 14th, the improvement was quite marked but we did not relax our vigilance. The hypodermics, except of strychnin, were discontinued. The enemas continued fifteen days, once every three hours, then at less frequent intervals for a month, then once a day for six weeks. The recovery of the little patient was long and slow but uneventful. The mother and nurse were devoted and ably seconded my efforts. At this time the baby is a strong, rosy youngster.

It gives me great pleasure to tell you of this case. The experience may be of value and it certainly proves to my satisfaction at least, the potential possibilities of Glyco-Thymoline in gastro-intestinal work. May you be speeded in your good work.

Dr. O. W. Cobb, Easthampton, Mass.

I find Germiletum unexcelled in nasal catarrh and the best preparation for old ulcers I have ever tried. Dr. J. B. Tanner, Lumpkin, Ga.

CLINICAL AND LITERARY NOTES.

Making Sufferers Comfortable.

By W. T. Marrs, M.D.

As has been frequently stated, the special province of the physician is to relieve pain. To do so without producing a drug habit, or in some way jeopardizing the patient's life, has always been a problem. I looked askance upon any drug or preparation purporting to be free from objectionable qualities until I began prescribing antikamnia & codeine tablets a year or so ago. The Antikamnia Chemical Company in their preparation of these tablets, by a refining process known to themselves, remove all the toxic elements from these two drugs, so that no damaging effects result. They produce only the most benign results and there is no tendency whatever to produce a drug habit. I now regard antikamnia & codeine tablets as the ideal pain-reliever. Headache and neuralgia are not their only field of usefulness. I find that in chronic and malignant diseases, where pain is a marked factor, the antikamnia & codeine tablets relieve the pain and make the sufferer more comfortable. Cancer is a condition attended by excruciating pain, but I was agreeably surprised and my patient gratified at the results obtained from these tablets.

I have also had pleasing results from

these tablets in both acute and chronic rheumatism. All physicians know how intractable is sciatic rheumatism, but the last few cases I attended I prescribed these tablets and I am sure they lessened the duration of the disease. To relieve pain in its incipency will often abort an inflammatory disease. This preparation certainly has quite a large field of usefulness, and the doctor who once uses it will seldom resort to any other anodyne.

Jewett, Ill., May 5, 1906.

Hemophilia.

Paragraph from original paper, "Two Cases of Hemophilia," by Prof. A. C. Bernays: A terrific hemorrhage called me to a patient's bed about forty-eight hours after the operation, and from that time on for eight days, in spite of all I could do, the hemorrhage continued, and the patient was hovering between life and death nearly all the time. He became almost bloodless, and looked as white as the sheet on which he lay. He also suffered from loss of sleep partially, no doubt, caused by our incessant attempts at stopping the hemorrhage, I ordered for him Neurosine, which after three doses of a teaspoonful each, given one hour apart, resulted in a deep sleep, lasting seven hours, after which the hemorrhage stopped.

Everybody's Magazine.

Issued monthly. Yearly subscription, \$1.50 in advance. Single copy 15 cents.

Published by the Ridgway-Thayer Company, Union Square, New York.

Partial contents for July, 1906.

Soldiers of the Common Good, continued.—Charles Edward Russell.

The Glorious Fourth. — Eugene Wood.

The Dawn of Russian Liberty.—Vance Thompson.

Bucket-Shop Sharks.—Merrill A. Teague.

Saccular Sea-Serpent. — Broughton Brandenburg.

The Last of the Garrison.—Dorothy Canfield.

Sophie Wright: The Best Citizen of New Orleans.—John L. Mathews.

Marcia Way.—Richard Washburn Child.

Smith and the Mary Lee Association.—Gelett Burgess.

A Hot Night in the Square.—Jeanie Pendleton Ewing.

A Prediction Roll-Call.—Thomas W. Lawson.

Gestation.

Accidents Prevented.—The rule of many physicians is to administer Dioiviburnia in teaspoonful doses, four times a day, one week before the time for periods, during the last three months of gestation. Experience has convinced them that Dioiviburnia not only prevents miscarriage, but also facilitates parturition. To obtain satisfactory results, great care should be taken to *avoid substitution*.

Pruritis Ani.

I would not be without Resinol for any amount of money. I may quote you a case of a man who was suffering for many years with an itch in the rectum. After trying almost everything and being discouraged he came to me. I advised Resinol and Resinol Soap and in a week's time he had no more itch, was able to sleep and deeply grateful. I just mention this one case, and would say that the Resinol preparations should be in every home.

Dr. M. Nachbar, New York, N. Y.

Cholera Morbus — Dysentery.

During the Summer months every doctor should remember that Dioiviburnia is the remedy par excellence in cholera morbus, dysentery and other bowel troubles prevalent during the Summer months, restoring the stomach and bowels to their normal condition, free from all narcotics or other deleterious drugs. As an antispasmodic and uterine tonic, Dioiviburnia is unequaled. In the treatment of dysmenorrhea it is unexcelled. Dose: Dessertspoonful in hot water every two or three hours.

Malaria.

Ammo-Phenin should be employed early in the treatment of malarial conditions and especially during the stage of high fever. It stimulates the liver and secretions of the intestinal canal. Its specific action tends to the destruction of the plasmodium of malaria. Its use has always been attended by good results.

To Abort Boils.

Dr. Clark Smith, Berkeley, California, writes: "I wish to thank you for the samples of Campho - Phénique which you kindly sent me some time ago. I have used it mostly for injecting into boils and carbuncles, which it aborts speedily, much to the satisfaction of all concerned. It is an excellent preparation.

Hystero-Epilepsy.

I wish to tell what your Neurosine and Dioviurnia have done for a patient of mine; a lady, who has been under my treatment for the past fourteen months, suffering with hystero-epilepsy and suppression of the menses. I had given the bromides, *ad nauseam* and viburnum compound, but still the seizures would return at irregular intervals of eight to fifteen days. As soon as the Neurosine and Dioviurnia were received, which was four weeks ago, she began taking both in

teaspoonful doses four times a day. She has not had an attack of epilepsy since, and the menses appeared on the sixth day, after she began taking the medicine. I am very grateful for your kindness in furnishing me with medicines so valuable.

Dr. E. J. Hall, Benton, La.

Parturition.

Dioviurnia given in teaspoonful doses ever hour or two after parturition is absolutely the best agent to prevent after-pains and hemorrhage. By its direct tonic action on the uterus it expels blood clots, closes the uterine sinuses, causes the womb to contract, and prevents subinvolution. In severe cases it can be combined with one ounce of fluid extract ergot, with three ounces Dioviurnia. It is the experience of eminent practitioners in all cases, where ergot is indicated, that its action is rendered much more efficacious by combining it with Dioviurnia as above.

Tempus est Nummus.

The Physician's Friend, is the **EVER READY FILE** It Saves Time and Worry. Keeps Your Accounts Straight to a Penny. It can be placed inside your desk, or any convenient place. Does away with day-book, ledger, journal, etc., all being contracted to one card. Price complete, with 40' Division Alphabet and 500 Records, express prepaid, **\$4.00**



Patented Apr. 25 '05.

Outside dimensions of cabinet: 5 ins. high, 7 ins. wide, 15 ins. long, holding 1000 Record Cards
Send for particulars to the **Ever Ready Mfg. Co., CINCINNATI, OHIO.**

Facial Erysipelas.

I have been using Germiletum in facial erysipelas with the same good result that I have had in eczema and other skin troubles. I have used it in tonsillitis, peritonsillitis, rhinopharyngitis, etc., with entire satisfaction to myself and patients. My faith in the preparation increases as I continue using it.

Dr. E. W. Bogardus, Romulus, New York, March 13, 1906.

Sick-Rooms in Summer

Can be kept cool, comfortable and free from odor by the following simple and practical method:

Prepare a mixture of "Platt's Chlorides" and water (one part to ten) in a bowl suitable for moistening a towel or sheet. This towel or sheet, frequently wafted about the room and then hung up, will maintain a constant cooling and deodorizing action by liquid evaporation and chemical absorption.

Fermentative Dyspepsia.

I have used Germiletum with great success in fermentative dyspepsia, which had heretofore resisted all my efforts to cure. I was surprised and delighted at the result. Improvement was apparent from the second day of treatment. I commenced by giving Germiletum, about one to ten of water (ice water) one teaspoonful every two hours; increasing one to seven on the third day and made still stronger on the fifth day by giving a solution of one to five.

Leroy R. Stoddard, M.D., Washington, D.C.

Epilepsy.

I have used your preparation, Neurosine, in a severe case of epilepsy, which has been running from bad to worse for five years, this last year he has been having an attack every other day. He has now been taking Neurosine for some six weeks without a paroxysm during this time.

Dr. S. T. Banes, Philadelphia, Pa., January 9, 1906.

The Liquor Habit.

The Keeley Institute of St. Louis treats successfully all drug and liquor habits. Thousands of cured patients are their best testimonials.

Doctor, if you have patients to whom you can not devote as much time as you wish send them to this institution, where the surroundings are pleasant and homelike, and where you can rest assured no publicity will attend their cure.

Dr. Blaine will take pleasure in giving you information regarding rates, etc.

Germiletum.

Slightly Alkaline. No Acid Reaction.

The best Liquid Antiseptic now offered to the Medical Profession. A specific in Catarrh and Eczema.

The Doctor will readily recognize, in order to secure permanent relief in Catarrh and Eczema, an alkaline remedial agent must be used with no acid reaction. We have hundreds of testimonials from the most prominent physicians who have cured Eczema and Catarrh with Germiletum. In mild cases, 1 part Germiletum to 2 parts water.

CLINICAL AND LITERARY NOTES.

McClure's Magazine.

Published monthly by the S. S. McClure Co., New York. Terms \$1.00 a year, 10 cents a copy.

The August contributors are Carl Schurz, Rudyard Kipling, Myra Kelly and other prominent and interesting authors of the day.

X-Ray Burns.

At the 337th regular meeting of the New York Dermatological Society held November 28, 1905, the subject of x-ray burns was taken up, and Dr. Henry G. Piffard, Emeritus Professor of Dermatology in the New York University, according to the "Journal of Cutaneous Diseases," said, that he obtained the most benefit in treating these conditions from Antiphlogistine, chlorid of zinc, high frequency currents and ultra violet rays.

Everybody's Magazine.

Issued monthly. Yearly subscription, \$1.50 in advance. Single copy 15 cents.

Published by the Ridgway-Thayer Company, Union Square, New York.

The August number was devoted almost entirely to fiction, by Jack London, O. Henry, Lloyd Osbourne and other fascinating story tellers.

Harper's Magazine.

Issued monthly at \$4.00 per year, single copy 35 cents.

The September number contains the conclusion (begun in August) of Mark Twain's wonderful story, "A Horse's Tail," and other interesting and scientific contributions by eminent writers.

The Best Neuralgic Medicine.

The Late Prof. J. A. Batte, editor of the *Memphis Medical Monthly*, Memphis, Tenn.—I take this opportunity to express my gratification as to the happy results obtained from the use of Neurosine. It is certainly the best neuralgic medicine I have used. I have tried it in two cases of trifacial neuralgia, after having tried some of our most powerful remedies, such as belladonna, opiates, gelsemium, arsenic, etc.; none have acted so well as Neurosine.

La Grippe.

The most gratifying results have been procured by the use of Ammo-Phenin in this disease. The excruciating pain in the muscles, joints and all over the body are promptly retired by Ammo-Phenin. High and dangerous temperatures are reduced by its ac-

tion. The expectorant qualities of ammonia have long since been recognized. Entering as it does in the combination of Ammo-Phenin, it guarantees for the remedy a wide sphere of action in pulmonary diseases. Not only in this form of la grippe, but also in pneumonia, bronchitis, asthma, etc.

Modern Management of Malarial Anemia.

One of the most obstinate forms of anemia with which the physician has to contend is that which succeeds malarial infection. This particular form of anemia is, unquestionably, due directly to the structural changes induced by the protozoon parasite.

While a mild form of anemia is a common, if not invariable, consequence of malarial infection, there is a severe type, termed malarial anemia, which not infrequently occurs. This latter variety usually responds slowly to curative measures; and, since its existence renders the individual a fit subject for recurring malarial manifestations upon the slightest exposure, the importance of its cure can not be too strongly emphasized.

The doctrine of the latency of malarial poisoning in the human body is rapidly gaining in popularity. Some authorities even go so far as to claim that a person who has once been inoculated with the malarial protozoa never completely recovers.

Whether this be true or not, it is certain that the protozoon parasite does exert an influence which tends, for a great length of time, to lower vitality and render feeble the powers of

resistance to renewed attacks. This is especially true in the case of women, children and persons of advanced age.

Recent investigators unite in ascribing the cause of malarial anemia to the liberation of hemoglobin from the red corpuscles in the blood vessels. The pigmentation resulting from the liberation of hemoglobin is one of the characteristics of malarial infection. And while the coloring matter may remain in the blood stream, its usually infiltrates into the cells and neighboring tissues. The deposit of pigment is especially great throughout the tissue of the liver and spleen.

The thickening and softening of the mucous membrane of the stomach which always attends malarial infection, seems likely to contribute, at least to some extent, to the development of anemia.

In every instance the degree of the anemia is in direct ratio to the amount of the hemoglobin liberated from the red corpuscles. And this fact explains the philosophy of effecting repair by the administration of iron, the hemoglobin contributor.

Whether or not the protozoon parasite is ever completely eliminated from the economy remains an unanswered question. But it is now universally conceded that the protracted administration of iron does render the individual partly, if not completely, exempt from a return of malarial manifestations of an aggravated type. Far more so, in fact, than does quinin. Indeed, we have good cause to believe that iron exerts a destructive influence upon the malarial protozoa and increases the immunity of the individual.

While it is the chief aim of the physician to make up the deficiency of the

hemoglobin in these subjects by the administration of iron, it is distinctly important, coincidentally, to increase the appetite and augment the capacity to appropriate the food ingested.

To this end, discrimination in the selection of the form of iron to be employed is vitally essential. The acid solutions of the drug are ineligible because of the fact that they can not be engaged for a long period without harmfully affecting the secretion of the digestive juices and adding to the morbid state of the mucous surfaces of the alimentary tract.

Furthermore, the continued use of acid products of any sort are certain to diminish the alkalinity of the blood, thus depressing, to a very considerable extent, the nutritive processes. Then, too, headache which is ever a disturbing factor in these cases, is intensified by all substances of an acid reaction.

The strongly alkaline preparations of iron, while less objectionable than the acid ones, are open to fault for the reason that they induce constipation, and in this manner favor autointoxication.

By far the most effectual form of iron in the treatment of malarial anemia is that which is neutral in reaction and available for immediate absorption. The organoplastic form of iron, as found in Pepto Mangan (Gude), certainly fulfils the requirements of the physician with greater promptness and uniformity than any other product thus far evolved.

The preparation — Pepto-Mangan (Gude)—is by all means the most potent hemoglobin-producing form of iron, and it undoubtedly surpasses other ferruginous products as an in-

vigorator of the digestive and nutritive functions. These assertions are easily confirmed by the microscope.

It is also an accepted fact that Pepto-Mangan (Gude) does not induce constipation and it seems to materially hasten repair of the mucous surfaces of the alimentary tract resulting from the structural changes incident to the malarial infection.

In short, Pepto-Mangan (Gude) is of inestimable value in the treatment of malarial anemia by virtue of its manifold advantages over other preparations of iron.

If this preparation is administered for the proper length of time, the individual gains substantially in strength, flesh, physical and mental energy.

Germiletum

vs.

Catarrh and Eczema.

Germiletum being slightly alkaline with no acid reaction, the Profession will readily recognize that in Germiletum they have an Atiseptic, Germicide, Deodorizer and Disinfectant superior to any other and whereas the Dios Chemical Company of St. Louis manufacture Specialties only for Physicians to prescribe, the Profession may rest assured that all Products of their Laboratory will be kept up to the Highest standard of efficiency. On application they will furnish literature, clinical reports and Commendations recommending Germiletum as unexcelled in Catarrh and Eczema. In addition they proffer their Complete Visiting List for 1906 of 126 pages, Lock Bill File and full size bottles of Germileum, Dioviurnia and Neurosine free, only to Physicians, they paying express charges.

A Soothing Soap.

It is very gratifying for me to testify to the merits of Resinol Soap. In conjunction I am also giving the testimony of more than a dozen of my friends who have used it through my personal recommendation. For soothing and making the skin smooth after shaving it has no parallel, to say nothing of that indescribable feeling experienced in its effects after a bath.

J. A. Wright, D.D.S., 2902 State St., Chicago.

Uterine Tonic and Antispasmodic.

The Late L. Ch. Boisliniere, M.D., Professor of Obstetrics, St. Louis Medical College.—I have given Dioivburnia a fair trial, and found it useful as an uterine tonic and antispasmodic, relieving the pains of dysmenorrhea and regulating the uterine functions. I feel authorized to give this recommendation of Dioivburnia, as it is neither a patented nor a secret medicine, the formula of which having been communicated freely to the medical profession.

Treatment of Hay Fever.

There is abundant clinical evidence to establish the claim that Uric-Antagon controls the progress of this disease and gives relief where its administration is continued through the season. Uric-Antagon is purely a vegetable pharmaceutical preparation combining the alterative properties of
 Phytolacca Decandra,
 Serenæa Serrulata,
 Stillingia Sylvatica,
 Cimicifuga Racemosa, and
 Aconitum Napellus, a trace not sufficient to unduly depress heart action.

It contains no salicylates, opium, colchicum, or potassium.

Favorable reports on the use of Uric-Antagon in Hay Fever have come from so many responsible physicians that a trial of this carefully compounded preparation should be given in all cases.—*International Jour. of Surgery*, July, 1906.

A full size bottle will be sent to any physician who will pay expressage.

Anti Uric Co., Peoria, Ill.

Chicago Laboratory.

Do analytical work for physicians and manufacturers. Its chemical department, under charge of Dr. Ralph W. Webster, Ph.D., recently Associate Professor of Chemistry at the Chicago University and a pupil of Fischer, of Berlin, and von Noorden, of Frankfurt. The Bacteriological Department under charge of Dr. Milton W. Hall, graduate of the Boston School of Technology, and lately engaged on the research work of the Pneumonia Commission.

The Chicago Laboratory has upon its Consulting Staff names not excelled in prominence in the Middle-West, and is at all times a Laboratory for research and is not a school in chemistry.

Uterine Trouble.

I have tried Dioivburnia in combination with Neurosine in severe cases of uterine trouble and am very much pleased with results. I shall certainly continue their use in my practice.

Dr. L. W. Mason, Arlington, Tenn.
 The "Bete-Noire" of the Physician.

SPECIAL PREMIUM OFFER!!

To the First 500 responses to this offer we will mail the *St. Louis Courier of Medicine* for the remainder of this and all of next year for \$1.00, and send you, *prepaid*,

"ANTISEPSIS AND ANTISEPTICS"—Buchanan. Illustrated, 325 pages.

Fill out blank below and the book will be forwarded *at once*

COURIER OF MEDICINE COMPANY,
318 N. Garrison Av., St. Louis, Mo.

Mail the *St. Louis Courier of Medicine* to me from now until January 1908, as a trial, for which I agree to pay \$1.00 in December 1907, and \$2.00 per annum thereafter until ordered discontinued. You are also to send me Buchanan's "Antisepsis and Antiseptics" upon receipt of this order.

NAME.....

STREET No.....

CITY.....

DATE..... 1906.

STATE.....

CLINICAL AND LITERARY NOTES.

Rectal Irrigation in Enterocolitis of Children.

By Clarence G. Clark, M.D.,
New York City.

When we consider that nearly one-half of all the children born die before reaching the age of one year and by far the greater portion of these die from some form of intestinal indigestion, we realize what an immense field there is for the improvement of our technic in the treatment of these affections.

No medication by the mouth seems efficient to stop the progressive wasting. As soon as food is taken it is passed out without the child absorb-

ing it. It is of one of these cases that I wish to present to the medical profession a report, hoping that the methods adopted will be found successful in other cases of a similar nature.

Baby D., aged 4 months, presented the following history: The child was nursed by its mother for one and a half months but her milk was of poor quality and the child did not thrive, so she was advised by her attending physician to stop the breast and substitute the bottle. This she did, feeding the infant on a mixture of milk, cream, milk-sugar and barley water in 3-6 1 proportion. The baby thrived on this for about two months, but early in July it developed a diarrhea. The

mother gave it home remedies but still continued the milk, feeding it even more frequently than before as the child was fretful and apparently hungry. The stools averaged seven or eight a day and occasionally the baby would vomit. This continued for two weeks when the mother became worried at the progressive emaciation and decided to call a physician. I first saw the child July 16th.

On examination I found the baby extremely emaciated, lies on its cot apparently without strength to move; the tongue is fissured, cheeks sunken, abdomen slightly tympanitic, temperature 102.2° , weight 7 pounds; stools ten to twelve daily, full of mucus and curds of undigested milk.

Treatment.—The milk was stopped at once and the child fed on barley water and albumin water. I ordered the nurse to wash out the colon twice daily through a catheter with two quarts of a solution containing Glyco-Thymoline 1 part and water 10 parts. By the mouth I gave $1/20$ grain calomel tablets every hour for ten hours, and 20 drops of brandy every 2 hours.

July 17th the child was in about the same condition except that it had only nine stools in twenty-four hours and they were of a trifle better color, with less mucus and no curds. The irrigation was continued but the calomel was stopped. Brandy was continued.

July 18th.—Seven stools, quite watery but of a much better color. The treatment was continued until July 24th at which time the child was much improved, having only three actions per day and passing very little mucus. On this date I began the milk again, using a very dilute formula with 3 ounces of top milk, 1 ounce of lime water, 1 ounce of milk sugar and 15 ounces of boiled water. The irrigations with Glyco-Thymoline were continued 1

to 8, once a day, but all other medication was discontinued. The infant began to thrive at once and in about two weeks more we weighed the baby and noted an increase of three pounds. I gradually increased the strength of the food until at the present time he is taking 8 ounces of milk to 11 ounces of water and 1 ounce of lime water, which is almost the average for an infant of his age (5 $1/2$ months.)

This is only one case of a number I have treated with nearly the same routine this summer and with the same satisfactory results. I attribute the success I have had to two factors—First, the immediate withdrawal of all milk and, second, the continuous and copious irrigation. For this irrigation I have tried numerous solutions but have found nothing to equal Glyco-Thymoline in a 1 to 10 proportion. It appears to cleanse the inflamed colon better than anything else, and in nearly all cases of this nature I have had quick improvement in the character of the stools after its use.

In conclusion I would state that although in this case I did not give much treatment by the mouth because the symptoms seemed to point more to a lower bowel affection, yet in many cases where gastric symptoms have been more prominent I have combined with the irrigation treatment, Glyco-Thymoline in doses of xv to xxxm, combined with liquorbismuth:

R. Glyco-Thymoline, \mathfrak{z}_{ss}
 Liq. bismuth, \mathfrak{z}_{j}
 Water, q.s. \mathfrak{z}_{ij}

M. Sig.— \mathfrak{z}_{j} every 2 or 3 hours.

This in connection with rectal irrigation with Glyco-Thymoline in the proportion indicated above will suffice in nearly all cases of gastroenteritis, enterocolitis and enteritis so common in artificially fed infants.

Another Phase of the Proprietary Question.

There is at least one phase of the proprietary question which we believe has not been seriously considered, and that is, that while every effort is being made by some of our earnest and really conscientious, though misguided, workers to destroy the faith of the profession in practically all remedies of this class, and to bring them into ridicule, practically nothing has been done to provide satisfactory substitutes for them, except to make suggestions—an excellent one too, that physicians should familiarize themselves with the official and semiofficial preparations contained in the Pharmacopeia and National Formulary.

In making this suggestion they forgot to add that a very large share of these "official" preparations are old proprietaries under other names. In other words, the great "reform" consists in the denunciation of such remedies as antiphlogistine, arsenauro, lactopeptine, Fellows' hypophosphites and antikamnia, while the use of practically the same things under other names is suggested or advised. In some instances the very formulæ are used that proprietors have published or that analytical chemistry has elucidated.

There is reason for the popularity of the proprietaries. Whether many of these were "wonderful discoveries" or not, they have enabled the average physician to secure results more satisfactory to himself and his patients than he was able to secure without them. Very, very few medical men are able to extemporize prescriptions which at the same time are effective,

palatable and not uselessly polypharmaceutical. All doctors ought to be able to do this, but they are not—and whose fault is it? And even if they were, who but the sheerest crank would claim that he could properly write for, or the average druggist dispense, substitutes as elegant, as cheap and withal so satisfactory as many of the best type of the proprietaries? It is best to look all these facts squarely in the face and be sensible in our conclusions.—*Clinical Medicine.*

Epilepsy.

I have used your preparation, Neurosine, in a severe case of epilepsy, which has been running from bad to worse for five years, this last year he has been having an attack every other day. He has now been taking Neurosine for some six weeks without a paroxysm during this time.

Dr. S. T. Banes, Philadelphia, Pa.,
January 9, 1906.

A Perfect Surgical Lubricant.

The surgeon of today knows that absolute sterility greatly increases the chances of his patient's recovery. No germ must be allowed to come in contact with the open wound or the mucous surface, and in no one particular is greater discrimination shown than in the selection of the lubricant. The oily, insoluble lubricant no longer satisfies. It must be sterile, soluble, neutral in its reaction and possess healing properties.

Lubrikol made from the best imported Irish moss with the addition of eucalyptus and formaldehyd answers

all these requirements. In order that it may always be in a sterile condition and ready for use, it is put up in collapsible tubes only, which are themselves rendered thoroughly aseptic.

Lubrikol is the ideal lubricant for the surgeon, obstetrician or gynecologist, in fact, is a perfect lubricant, possessing not one single objectional feature.

Lubrikol is for sale in 3-ounce collapsible tubes at 25 cents per tube by druggists and surgical instrument dealers.

Manufactured only by J. M. Grosvenor & Co., Boston, Mass.

McClure's Magazine.

Published monthly by the S. S. McClure Co., New York. Terms \$1.00 a year, 10 cents a copy.

The October number of McClure's contains, among other interesting articles, Lincoln Steffens' contribution—"The Child Criminal and His Salvation," founded on incidents that daily occur in the Juvenile Court of Denver.

The Road to Health.

The road to health is through balmy air and sunshine, combined with a food that is full of nutriment and easily digested.

Such a food is Shredded Whole Wheat. It is made of the whole wheat, cleaned, cooked and drawn into fine porous shreds and baked. These delicate shreds contain all the nutritive elements of the whole wheat grain and are taken up and assimilated when the stomach rejects all other food.

Many of the best-known physicians use Shredded Wheat as an agreeable and beneficial food in the treatment of consumption.

Shredded Wheat is made by The Natural Food Company at Niagara Falls in the cleanest and finest industrial building on this continent.

Uric Acid Diathesis.

Anti-Uric Co., Peoria, Ill.

Gentlemen.—Replying to your letter of a few days ago, will say that I have used Uric-Antagon in several cases of uric acid diathesis with entire satisfaction to the patients as well as myself. I shall continue its use when indicated.

Elmore Palmer, M.D., Buffalo, N.Y.

The Red Book.

A monthly magazine, published by the Red Book Corporation, 158-164 State street, Chicago. Terms, \$1.00 a year, 10 cents a number.

The September number of this magazine contains a varied and interesting amount of light and bright reading and is fully illustrated.

Everybody's Magazine.

Issued monthly. Yearly subscription, \$1.50 in advance. Single copy 15 cents.

Published by the Ridgway-Thayer Company, Union Square, New York.

The September number of Everybody's is brimful of good thing by both American and foreign writers.

SPECIAL PREMIUM OFFER!!

Having a limited number of BRYCE'S POCKET PRACTICE, We will mail the *St. Louis Courier of Medicine* for the remainder of this and *all* of next year for \$1.00, and send you, *prepaid*, "Bryce's Pocket Practice," a complete and condensed work on the practice of medicine for physicians and students. Morocco bound.

Fill out blank below and the book will be mailed *at once*

COURIER OF MEDICINE COMPANY,
318 N. Garrison Av., St. Louis, Mo.

Mail the *St. Louis Courier of Medicine* to me from now until January 1908, as a trial, for which I agree to pay \$1.00 in December 1907, and \$2.00 per annum thereafter until ordered discontinued. You are also to mail me "Bryce's Pocket Practice" upon receipt.

NAME.....

STREET NO.....

CITY.....

DATE.....1906.

STATE.....

CLINICAL AND LITERARY NOTES.

Echinacea in Typhoid Fever.

Ellingwood, in his recent work—"Treatment of Disease," says with regard to typhoid fever: "Echinacea has been extensively used in the past 10 years, and while it has not aborted the fever, it is the best of our agents in antagonizing the influence of the toxins within the system. It may be given in conjunction with all other indicated remedies. All observers unite in the opinion that it greatly modifies the severity of every case. It lessens the fever and materially shortens its course; but few cases continue beyond 3 weeks when this agent is employed. It preserves the integrity of the blood, sustains the action of the heart, stim-

ulates the stomach, encourages nutrition and positively wards off complications and sequellæ.

"Hemorrhage is almost an unknown complication with those who have used echinacea in typhoid.

"Baptisia is indicated when the tongue is dry and covered with a brownish coat; when the mucous membranes are dark colored, purplish or dark-red, and when the breath and fecal discharges are fetid and there is sordes on the teeth. It is a great favorite with those who have had experience with it. It should be given as soon as any of the indications appear."

Eusoma (Echinacea Compound) con-

tains in each fluid dram, 15 grains of echinacea, 2 grains of thuja and 4 grains of baptisia, and is the most efficient preparation of echinacea which has ever been offered to the medical profession.

Eusoma is manufactured by the Eusoma Pharmaceutical Company of Cincinnati, Ohio, from whom samples and descriptive matter may be obtained upon request.

Watering Places.

It is really to be regretted that physicians generally have not enriched their armamentarium of therapeutic means by an accurate knowledge of the watering places of this country. As Coan has well stated, "under the general title of watering-place cures a great number of healing agents are grouped together—climate, locality, mineral waters, baths, hygiene, tonic and alterative treatment, the balm of rest and the stimulus of pleasant variety, social pleasure and the enjoyment of Nature at its widest and best."

Of the numerous places which, more or less, fulfill all these requirements, Excelsior Springs, Mo., certainly fulfills them most completely.

In intractable cases of anemia the Silvan Spring at Excelsior Springs furnishes an ideal ferro-manganese tonic. Iron medication is not all, however, as every therapist knows, the fresh air and delightful surroundings are powerful adjuvants. The ferro-manganese water from the Regent Spring is still stronger in iron and is said to be the strongest iron-manganese water in the world.

There are other springs, such as the Sulphosaline, a water which has

superior properties in gastroenteric disorders, but altogether Excelsior Springs can be truthfully stated to be a remarkable health resort. No physician should neglect to become thoroughly familiar with the therapeutic indications of this watering place. Do not forget to use its advantages.

In considering a journey to Excelsior Springs, either for rest or recreation, or for relief from bodily infirmities, please remember this fact.—At no other resort in the United States are charges so reasonable for the service rendered. The people at Excelsior Springs started right; they determined never to overcharge anybody for anything, and they will not tolerate attempts of that kind. One does not need to be wealthy to come to Excelsior Springs for an extended stay. The waters are free except the saline.

The best way to reach the Springs.—Excelsior Spring is located on the line of the Wabash Railroad and is the direct line to the Springs from nearly every city of prominence in the Central States.

From Kansas City, Mo., it operates through train service to Detroit, Buffalo, New York, Boston, and through service to the same points from St. Louis and Chicago, being the short line between Excelsior Springs and the entire eastern territory.

Doctors in Mining.

The Burns-Moore Tunnel Company, at Idaho Springs, Colorado, has nearly one thousand doctors among its stockholders, its tunnel is now over 2700 feet long and is developing a large, loose vein, running \$93.00 to the ton.

The objective point is the Laramie Group, which has shipped over \$5,000,000 worth of ore.

This Tunnel property must eventually become a great mining and transportation enterprise as it is passing through one of the richest and most promising mineral belts in the State of Colorado.

Neurosine.

The standard neurotic, anodyne and hypnotic; contains no opium, morphin, chloral or other deleterious drugs.

Indicated in all neuroses, chorea, migraine, neuralgia, hysteria, asthma, spermatorrhea, neurasthenia, uterine congestion, herpes, shingles, delirium tremens, opium habit, whooping cough, sea-sickness and all reflex and convulsive neuroses.

The remedy *par excellence* in restlessness of fevers, producing natural sleep. The true calmative. Almost a specific is Epilepsy.

Two parts of Divi-divi and one part of Neurosine is very efficient in hysteria, menopause, eclampsia, menstrual colic, melancholia, anemic nervousness, female neuroses, uterine congestion, nervous prostration, ovarian neuralgia, reflex cough, delayed catamenia, asthma sexualis, subacute rheumatism, uterine irritability, lumbago, rheumatic and sciatic pains, migraine, neurasthenia from uterine disease and non-descriptive cases. It is an efficient diuretic, and will relieve all false pains.

I am prescribing Neusorine in a case of epilepsy with gratifying results. It is unexcelled wherever a hypnotic or neurotic is indicated.

Dr. E. E. Wagner, Stillwater, Pa.

A Notable Pharmaceutical Advance.

The two pathologic conditions which have become so common that they are now fairly looked upon as characteristic national diseases are Malassimilation and Neurasthenia. The former is the fundamental cause of all the wasting diseases, and the latter figures as the chief factor in the prevailing indigestions, anemias, neuralgias and hysterias, with all their countless and complicated manifestations.

These various and at first thought dissimilar ailments are really more closely related than is commonly supposed. The condition that is common to all of them is poverty of the blood, and poverty of the blood means both a deterioration in the quality and diminution of the quantity of the circulating medium. So evident is this fact becoming that in every chronic and in many acute diseases one of the first precautions of the medical adviser is to secure a specimen of the blood and submit it to microscopic examination.

Given a normal quantity of healthy or normal blood, there can be no serious disease present in the body.

The dyspeptic and the neurasthenic are invariably anemic, and the rational treatment of either condition is to restore the blood. The victim of anemia is almost invariably a poor feeder; and if he sometimes eats fairly well he does not digest, and therefore does not maintain his blood in normal condition either as to quantity or to quality.

Time was when tincture of iron was the only remedy at the command of the physician for his combat with anemia. It is still used to some extent, and, barring a somewhat sorry history

of blackened and sometimes ruined teeth, it stands accredited with many "cures." Advanced and intelligent physicians now seldom prescribe it, for the very good reason that the market affords them much better weapons.

For three or four generations the tincture of the chlorid of iron has been the sheet-anchor among blood tonics. The drawbacks to its use have long been known, and it has all along been compelled to maintain its position and popularity in spite of its disadvantages. It is harsh in its effects on the teeth and the stomach, it blackens the stools and constipates the bowels, and it is disagreeable to take.

But times have changed. Pharmacy has grown from a secret craft to an advanced and open art. Its progress has been parallel with the progress of civilization. The trained pharmacist has supplanted the bungling apothecary, and it is no longer necessary to blacken the teeth and derange the digestion when a chalybeate is required. So necessary have these skilled manipulators and enterprising manufacturing chemists become that without them the modern physician would be fairly lost and seriously handicapped. They have learned to combine eligibility, palatability and assimilability to such an extent that the old crude forms of drugs are being universally dropped from the lists.

One of the most striking examples of this change is found in the preparation now so widely known and extensively patronized under the name of Gude's Pepto-Mangan. It meets all the requirements for an effective chalybeate with none of the old drawbacks. Its clinical success is so

marked and uniform that the physician who has once tested it in a proper case will never think of returning to the old routine of tincture of the chlorid of iron for anemic patients.

Reports of its brilliant results are multiplying in all quarters.—*Dietetic and Hygienic Gazette.*

Miscarriage.

I have prescribed Dioivburnia and Germiletum in my practice repeatedly, especially the former. As a general uterine tonic it has given more than ordinarily good results, and I carried one patient over the third month of pregnancy who had three times previously miscarried at that period.

Dr. C. M. Baker, Hyannis, Mass.

The Red Book.

A monthly magazine, published by the Red Book Corporation, 158-164 State street, Chicago. Terms, \$1.00 a year, 10 cents a number.

The Christmas number of the Red Book will be brimful of entertaining and delightful stories by such favorite contributors as Roy Norton, Rupert Hughes, Leo Crain and other writers of prominence.

The Smart Set.

Yearly subscription \$2.50, single copies 25 cents. The Ess Ess Publishing Co., 452 Fifth Avenue, New York.

The December number of this clever magazine will contain, among many other good things, a highly interesting novel by Mrs. Henry Dudeney.

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CLINICAL AND LITERARY NOTES.

Modern Civilization as a Factor in Causing Diseases in Women.

By N. H. Kassabian, M.D.

Coopersville, Mich.

A woman, physically perfect, is certainly a unique creature in modern times. Our civilization has contributed very extensively to the causation of female maladies which we are so frequently called upon to treat. Our modes of living and dressing exert a very deleterious influence upon the normal functions of the pelvic organs, not to mention the hepatic compressions and subsequent displacements resulting as a natural consequence of

tight-lacing practiced by the most humble devotees of the temple of fashion. We are a very progressive race, taking herculean steps toward a higher civilization; but it is a deplorable fact that the more we learn the more we ignore the most fundamental laws of hygiene. The immediate effects of tight-lacing are, that abdominal and spinal muscles are seldom brought into play, so they become atrophied. The viscera are thus compressed and displaced, and the full play of the abdominal wall and the descent of the diaphragm are interfered with and the venous blood is hindered in its return to the heart. This obstruction of the circulation and the constipation from

which women habitually suffer lead to a permanent dilatation of the pelvic veins, a very fruitful sources of diseases of the genital organs. And again, custom demands the protection by veil and gloves from the rays of the sun, and the women soon become as bleached as a well-cultivated celery stalk. As the blood needs the direct chemical effect of the sunlight on the skin an anemia is established. This state of the blood is a potent factor in the generation of all the diseases depending on impaired nutrition and entails conditions likely to baffle all medical efforts at their removal during the menstrual life of woman.

Before the altar of fashion and so-called society our girls, while entering to puberty, have to comply with the dictates of the times and at the period of life when the young girl's whole nerve force is taxed for the full development of her organs of generation this force is deflected by hard study, and it may be for the acquirement of some accomplishment which, in all probability, will be forgotten or laid aside after marriage. She is subjected to the emotional influences of music and light literature, which are capable of arresting the normal development of the uterus and its accessory organs.

There are very few maladies which we are called upon to prescribe for as much as for menstrual disorders. A thorough examination with a view of ascertaining, if possible, any malposition of the genital organs should be insisted upon. The least abnormality should have proper attention and local as well as constitutional treatment. Anemia and chlorosis should have their attention as they almost invariably play a conspicuous part in causing

menstrual irregularities. In the form of Ergoapiol (Smith), I believe we possess a remedial agent that combines the most effective ingredients with which we can combat the majority of menstrual irregularities.

Clinical observations with this preparation are as follows:

Case 1.—Miss A. B., aged 16 years; parents both living and in excellent health. She has not had any serious sickness, although on account of there being a tubercular diathesis in the family the least abnormality in the functions of any of the organs is looked upon with suspicion and at once the advice of the family physician is sought. So when her mother noticed that her daughter had an irregular menstruation accompanied with dysmenorrhea she consulted me in her daughter's behalf. I prescribed for her Ergoapiol (Smith) capsules, directing her to give one 3 to 4 times a day, with milk, for 3 or 4 days before the expected menstrual period. My directions were complied with and after a few weeks it was reported that the menstrual disorders had been satisfactorily regulated.

Case 2.—Mrs. B., aged 38 years. Has 2 children. Her mother died from the result of an operation for appendicitis; father living and in good health. The patient has been anemic for many years, hemoglobin test only showing 40 percent. She has at present prolapse uteri to a slight degree, some perineal laceration and endometritis. Digestion is at fault part of the time, bowels constipated, ringing and buzzing in the head. Menstruates every 3 weeks. During the first day of the period it is very painful and the flow is very profuse, its duration being

from a week to 10 days. I prescribed Ergoapiol (Smith) capsules, one 3 to 4 times a day, a day or two before the expected menstrual period, to be continued until the menses appear, then to discontinue the capsules for 3 days, and recontinue, commencing on the third or fourth day. The therapeutic action of the remedy was all that could be expected. The dysmenorrhea, which was always a conspicuous feature, seemed to yield after the administration of the first few capsules. She menstruated quite easily and the duration was moderate.

Chronic Catarrhal Deafness.

Those cases of deafness which give evidence of congestion and inflammation of the drum membrane externally as the source of the trouble always resort well to the hot irrigation treatment. When the membrane exhibits patches of sclerosis in considerable amount, the treatment is more tedious. A solution of Glyco-Thymoline in 10 percent strength used at 100° will encourage active depletion of the congested area, restoring circulation of the minute terminal blood vessels and lymphatics. Action is evidenced in the increased secretion of cerumen. Tension is relieved and frequently the hearing is immediately restored. Catarrhal manifestations of the nasopharynx should always receive attention in these cases. Under this treatment tinnitus, if present, will be quickly relieved even though due to intratympanic causes. There is generally more or less tubal occlusion in these cases which is in an indirect manner benefited by the Glyco-Thymoline irrigation.

In aural neuralgia of all types, irrigations should be followed by the application of Glyco-Thymoline, full strength, by means of a swab. After all treatments by irrigation, a small tampon of absorbent cotton saturated with Glyco-Thymoline should be inserted in the external meatus.

Fermentative Dyspepsia.

I have used Germiletum with great success in fermentative dyspepsia, which had heretofore resisted all my efforts to cure. I was surprised and delighted at the result. Improvement was apparent from the second day of treatment. I commenced by giving Germiletum, about one to ten of water (ice water) one teaspoonful every two hours; increasing one to seven on the third day and made still stronger on the fifth day by giving a solution of one to five.

Leroy R. Stoddard, M.D., Washington, D.C.

Respiratory Affections.

Fothergill, one of the highest English authorities on medicine, says that no treatment of respiratory affections is complete without appropriate tonic treatment. This explains why Gray's Glycerine Tonic Comp. is so uniformly effective in both acute and chronic forms of bronchitis and laryngitis. It relieves the symptoms because of its local antiphlogistic properties and eradicates the disease because it antagonizes the ever-present element of systemic depression.

The unique therapeutic value of Gray's Glycerine Tonic Comp. can be best proven by a trial in those cases

of general debility that have resisted all other tonics and reconstructive medication.

Rheumatism of Joints.

Anti-Uric Co., Peoria, Ill.

Gentlemen.—The valuable sample of Uric-Antagon was received in safety. I am well pleased with the quick results obtained from its use by a patient suffering from joint rheumatism. I have tried many antirheumatic remedies but none which gave such success as Uric-Antagon. The pain was relieved after 2 days of treatment.

Uric-Antagon will be my steady companion in cases where uric acid is the cause. Dr. Gustav A. Herz,
New York City.

A Doctor's Epileptic Son.

My son is doing splendidly; has had only one paroxysm in five months, which I am confident was caused by reducing the dose of Neurosine. I am determined to persevere in this treatment. Am having many inquiries from physicians as to the merits of Neurosine and I recommend it to those who have cases of epilepsy.

Dr. G. W. Games, Hickory Flat, Ky.

Surgical Chairs.

The "Yale" and "Oxford" Chairs are the most complete and perfect chairs made. Their exclusive dorsal positions make them incomparable in rectal and gynecological examinations and surgery, and they are fitted with special attachments for examination of the eye, nose and throat. These special features are additional to the

universal movements of the chair and any desired position can be easily obtained with the patient in the chair.

Write to the Dependable Mfg. Co., Madison, Wis., for term, etc.

After Many Days.

That "honesty is the best policy" is strikingly illustrated by the relation of Scott's Emulsion to the requirements of the Pure Food Law.

At the present moment the manufacturers of preparations that contain alcohol or harmful ingredients, are greatly worried at being compelled to come out into the open and change their formulæ, or state the harmful ingredients on their labels.

Scott's Emulsion, on the other hand, pursues the even tenor of its way, undisturbed and unruffled. It has always anticipated the new law, in that it never contained any harmful ingredients. Consequently, no change of formula or label is necessary.

Through forcing alcoholic or harmful ingredients to be mentioned on the labels, the new Pure Food Law frees Scott's Emulsion from a tremendous amount of competition.

Thirty years of square, honest manufacture is rewarded by the fact that Scott's Emulsion is not only not hindered, but is actually helped by the Pure Food Law.

Dysmenorrhea.

At my request you sent me a sample bottle of Dioburnia with which I treated a very severe case of dysmenorrhea with excellent results. I shall certainly keep it in stock in the future.

J. A. Nolan, M.D., New Athens, Ill., July 2, 1906.







